

Manufacturers Record

Reg. U. S. Patent Office



APRIL 1935

BALTIMORE, MD.

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CONGRESS SHOULD BE TOLD

That the present confusion of Government has created the belief that the only certain results ahead are larger relief rolls and unbearable debt.

That the only way to recovery is to abandon the fantastic cure-alls that have failed and promptly set about encouraging industry and capital.

That industry, if unhampered by restrictive laws, will employ the idle.

That investors are scared by the attacks of Government upon creative enterprise and will not venture into new fields.

That "reform" *must* wait upon recovery.

ON THE JOB—IT'S A SHOW-DOWN

Moving big loads over any kind of footing—at record low costs—that's where the "Caterpillar" Diesel Tractor shows the stuff it's made of. Have your dealer give you the performance figures on the thousands of "Caterpillar" Diesels—engines and tractors—now building profits for power users all over the country. Test it in action on an operation of your own. For low costs, sure power, easy handling, convenient service—the "Caterpillar" Diesel wins in a SHOW-DOWN. Caterpillar Tractor Co., Peoria, Illinois, U.S.A.

Earth-moving costs have hit new lows on the Mississippi Levee since "Caterpillar" Diesel Tractors have been on the job. This one, at Elaine, Arkansas, is hauling from a dragline at a fuel cost of 15 cents an hour.



COMPLETE LINES OF TRUCK TIRES FOR EVERY TRUCKING SERVICE AT LOWEST PRICES—GIVING LONG MILEAGE AND GREATEST ECONOMY

FIRESTONE pioneered the ship-by-truck movement in 1918, and ever since has consistently led in anticipating every requirement in the design and construction of truck and bus tires for every transportation condition. To accomplish this, Firestone has consistently followed the fundamental principle of its founder and active head, Harvey S. Firestone, "Always to find the way to build tires better than anyone else."

While there are many reasons why Firestone Tires are safer and more economical, there are two reasons that stand out above all others. One is Gum-Dipping; and the other is two extra layers of Gum-Dipped cords under the tread.

By Gum-Dipping, every strand in every cord is soaked in liquid rubber, preventing friction—adding extra strength and long mileage. By having two extra layers of Gum-Dipped cords placed between the tread and cord body, it is practical to use a tread with higher, more rugged shoulders and a deeper non-skid with flatter contour.

All this provides more rubber on the road, giving longer wear, greater traction and quicker stops. These two extra construction features are patented and used only in Firestone Tires. Take a forward step in maintaining schedules and reducing operating costs. Call on the Firestone Service Store or Firestone Service Dealer today.



BALLOON
\$24⁴⁰
6.50-20
OTHER SIZES
PROPORTIONATELY
LOW



BALLOON
\$18⁸⁵
6.00-20
OTHER SIZES
PROPORTIONATELY LOW



HIGH PRESSURE
\$20⁷⁰
30x5 H. D.
OTHER SIZES
PROPORTIONATELY LOW



HIGH PRESSURE
\$18⁶⁵
30x5 H. D.
OTHER SIZES
PROPORTIONATELY LOW

Firestone
GROUND GRIP TYPE
Super traction tire for unimproved roads.

Firestone
OLDFIELD TYPE
The tire that taught thrift to millions.

Firestone
SENTINEL TYPE
Volume production tire for light trucks.

Firestone

HIGH SPEED TYPE

Greatest tire ever built for all-round service. Unequalled for high speeds and heavy hauling.

★★★★★ Listen to the Voice of Firestone—featuring Richard Crooks, Gladys Swarthout, or Nelson Eddy—every Monday night over N.B.C.—WEAF Network..... A Five Star Program

AUTO SUPPLIES FOR TRUCKS AND BUSES

FIRESTONE TRUCK TYPE BATTERIES



FIRESTONE HEAVY DUTY SPARK PLUGS



For quick starts and longer mileage.

FIRESTONE BRAKE BLOCKS and HEAVY DUTY LINING

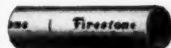


For better braking control.

FIRESTONE FAN BELTS



FIRESTONE RADIATOR HOSE



Firestone

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APRIL NINETEEN THIRTY-FIVE

OUR CONTRIBUTION TO THE DURABLE GOODS RECONSTRUCTION PROGRAM



Early this year we will put into operation a new wide continuous hot mill, for the production of sheets, strips and plates, up to 72 inches wide, and very soon thereafter a wide cold rolling mill producing flat cold rolled products up to 90 inches wide. This mill, a paramount engineering achievement, is the most recent design of rolling mill equipment, having many distinctive and exclusive features.

Announcement is made of the completion of a new mill for the production of electrically welded pipe, by the direct current resistance weld process. We can now furnish electrically welded pipe from 6 $\frac{5}{8}$ inches up to and including 26 inches, outside diameter.

★

The never-interrupted program at Youngstown is the promotion of engineering and metallurgical research. This program is aimed not alone to meet industry's exacting needs, but to anticipate and be prepared for tomorrow's requirements as well.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon and Alloy Steels

General Offices

YOUNGSTOWN, OHIO

MANUFACTURERS RECORD FOR

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**APRIL
1935**

Volume CIV No 4

MANUFACTURERS RECORD

Devoted to the Upbuilding of the
Nation Through the Development
of the South and Southwest as the
Nation's Greatest Material Asset

Published Monthly

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**PUBLISHERS DAILY CONSTRUCTION BULLETIN AND
BLUE BOOK OF SOUTHERN PROGRESS**



Member
A.B.C.

APRIL NINETEEN THIRTY-FIVE



A Modern Textile Mill in the South

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Recent installation
of Super-de Lavaud
Pipe at Chehalis,
Washington.

IMPACT
RESISTANCE
DOUBLED



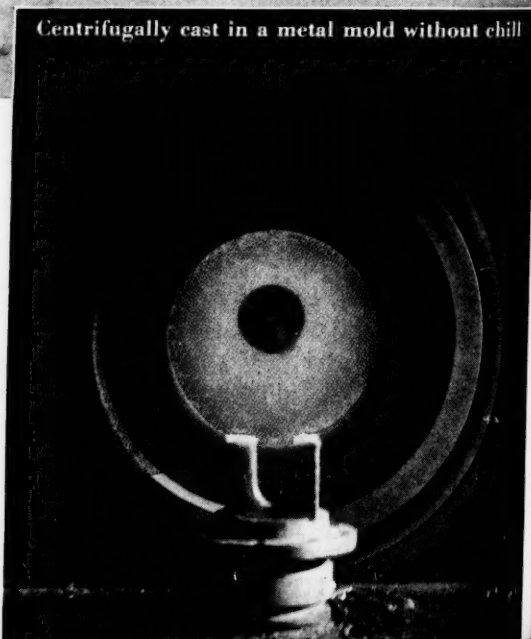
Centrifugally cast in a metal mold without chill

MANUFACTURERS go to great lengths to protect their products from the hazards of transportation as evidenced by the development of specially designed trucks, cars and containers now in use. But in the case of cast iron pipe, increased protection from plant to underground must be inherent in the pipe itself. We have accomplished this by *doubling the impact-strength* of the pipe.

In seeking this maximum protection for our pipe, we have developed and patented a new

method of manufacturing cast iron pipe, known as the Super-de Lavaud Process, which is regarded by metallurgists as an important advance in the art of casting gray iron.

Super-de Lavaud Pipe is centrifugally cast in a metal mold without chill. The result—as purchasers of nearly eight million feet of Super-de Lavaud Pipe already know—is a pipe with extraordinary impact-strength, toughness and ductility. The process is explained in a booklet we shall be glad to send upon request.



U.S. SUPER-de LAVAUD PIPE

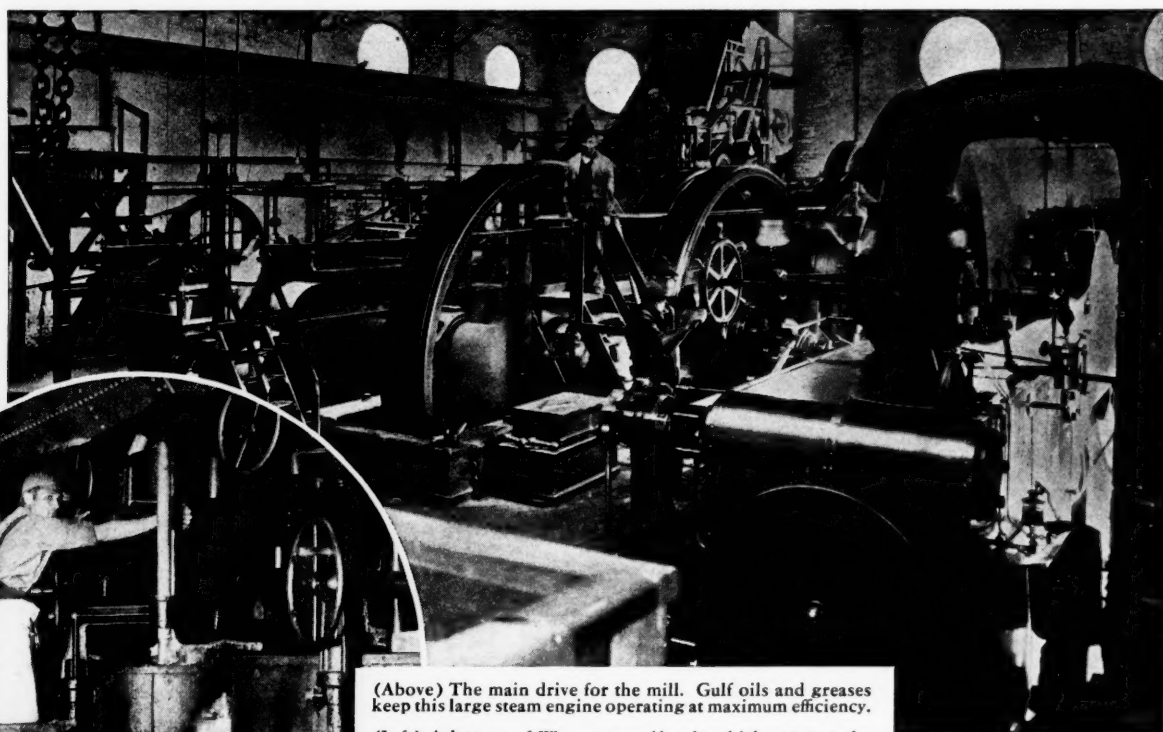
CAST WITHOUT CHILL IN A METAL MOLD

UNITED STATES PIPE AND FOUNDRY CO., General Office: BURLINGTON, N. J.

Foundries and Sales Offices throughout the United States

"NOT A MINUTE LOST IN 13 YEARS WITH GULF QUALITY LUBRICANTS"

Says **MR. J. G. McDOWELL, MGR.**
MEEKER SUGAR REFINING CO.



(Above) The main drive for the mill. Gulf oils and greases keep this large steam engine operating at maximum efficiency.

(Left) A battery of Weston centrifugals which separate the sugar from the liquor and operate at speeds up to 1200 RPM. Uninterrupted service is maintained by the use of the right Gulf lubricants.

Gulf Lubricants Cut Maintenance Costs in Leading Food Plants . . .

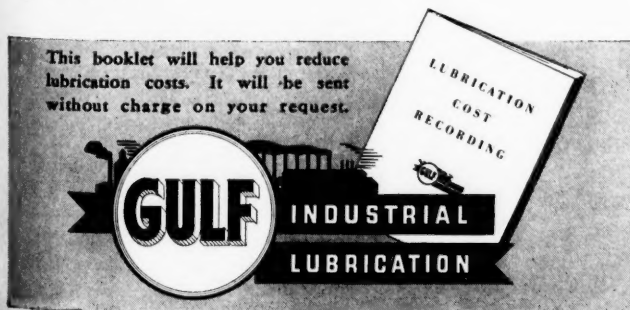
JUST AS the Meeker Sugar Refining Co. has had years of low cost operation with Gulf lubricants, so scores of plants in all branches of the food industries are reducing maintenance and lubrication costs with Gulf products.

When the lubrication of your plant is taken over by Gulf engineers, they make a careful study of each machine you operate. Their broad experience in the lubrication of machinery similar to yours enables them to recommend the lubricants best suited to the conditions found in your plant.

If you are not using Gulf products, we suggest that you discuss with a Gulf engineer just how a money saving lubrication program can be put into effect in your plant.

GULF REFINING COMPANY, PITTSBURGH, PA.

District Sales Offices:
Boston New York Philadelphia Atlanta New Orleans
Houston Pittsburgh Louisville Toledo



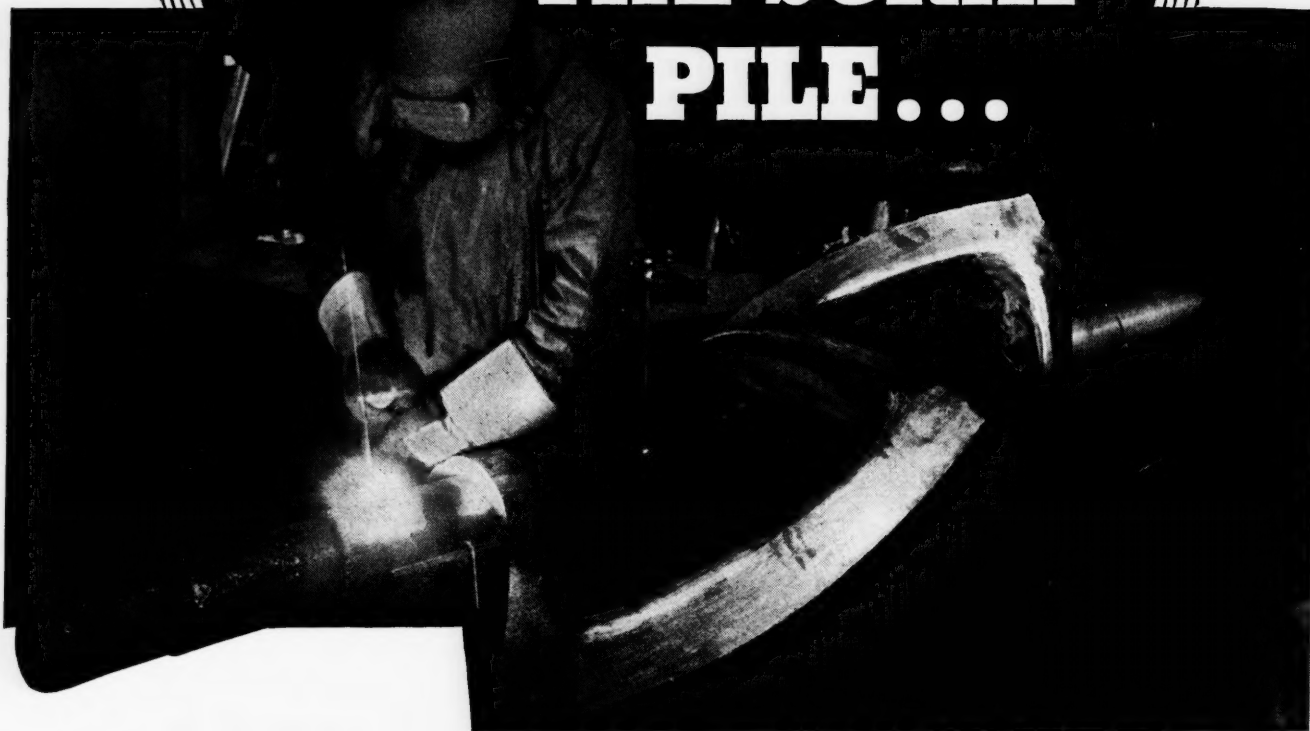
This booklet will help you reduce lubrication costs. It will be sent without charge on your request.

GULF REFINING COMPANY
3800 Gulf Building, Pittsburgh, Pa.
Please send me without obligation, the booklet "Lubrication Cost Recording."

M.R.4

Name.....
Title.....
Company.....
Address.....

HOW TO *cheat* THE SCRAP PILE...



... save thousands of dollars

WORN or broken machinery parts can be made as good as new, for a fraction of replacement cost, by welding with a "Shield-Arc" welder. With this modern maintenance tool, worn shafting, dies, molds and other parts can be built up to original size and shape. Parts subject to shock and abrasion can be resurfaced with weld metal which wears better than the original metal. Cracked or broken castings can be welded whole again. Mistakes in machining can be corrected by fusing new metal where too much has been removed. Often the savings from a single repair more than pay for a "Shield-Arc" welder. And you will find hundreds of other

uses, such as building jigs and fixtures, miscellaneous shop equipment, and many other applications where the "Shield-Arc" welder can save production time and cut costs.

Even the actual welding operation costs less with a "Shield-Arc." It is guaranteed 3-ways to produce more welding per dollar. Find out now how much a "Shield-Arc" welder can save you. Write The Lincoln Electric Company, Cleveland, Ohio. Largest Manufacturers of Arc Welding Equipment in the World.

LINCOLN

"SHIELD-ARC" WELDERS



LAD "S'matter, Pop? Got ants in your pants?"


POP "You give me more trouble than putting pants on ants. I bought a 'Shield-Arc' welder to save us money—then you only use it when we have a job in mild steel. Why do you think Lincoln makes 17 kinds of electrodes? Get their procedures for welding high tensile steel, cast iron, manganese steel, stainless steel, light gauge steel, aluminum, also for various kinds of hard surfacing."

W-112

LINK-BELT CHAINS & SPROCKETS

*for Drives and Conveyors
fit Industry's Needs*

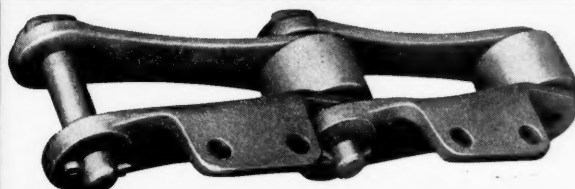
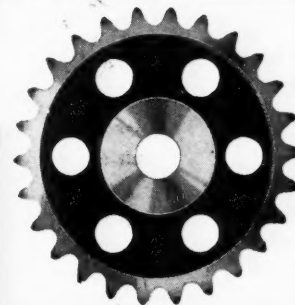
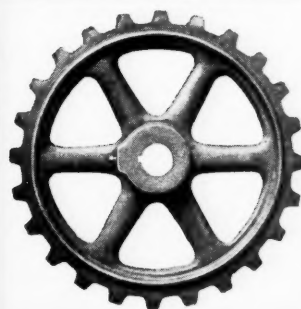
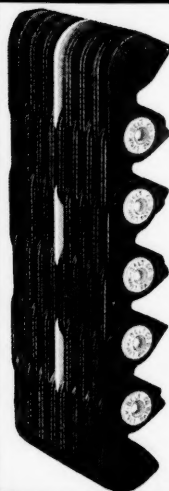
HUGE stocks of chains made of Promal, malleable iron and steel for every conveying and power transmitting service—thousands of cut and cast tooth sprockets built to fit and work with chains of standard pitch—a complete line of conveyor and power transmission accessories of all types—carried at convenient points throughout the country by jobbers and at our plants and warehouses.

Look for the Link-Belt identifying trade  mark. It assures you of the highest quality that the leading chain manufacturer can produce. Send for 1024 page general catalog engineering data book No. 600, showing the complete Link-Belt line. Address nearest office.

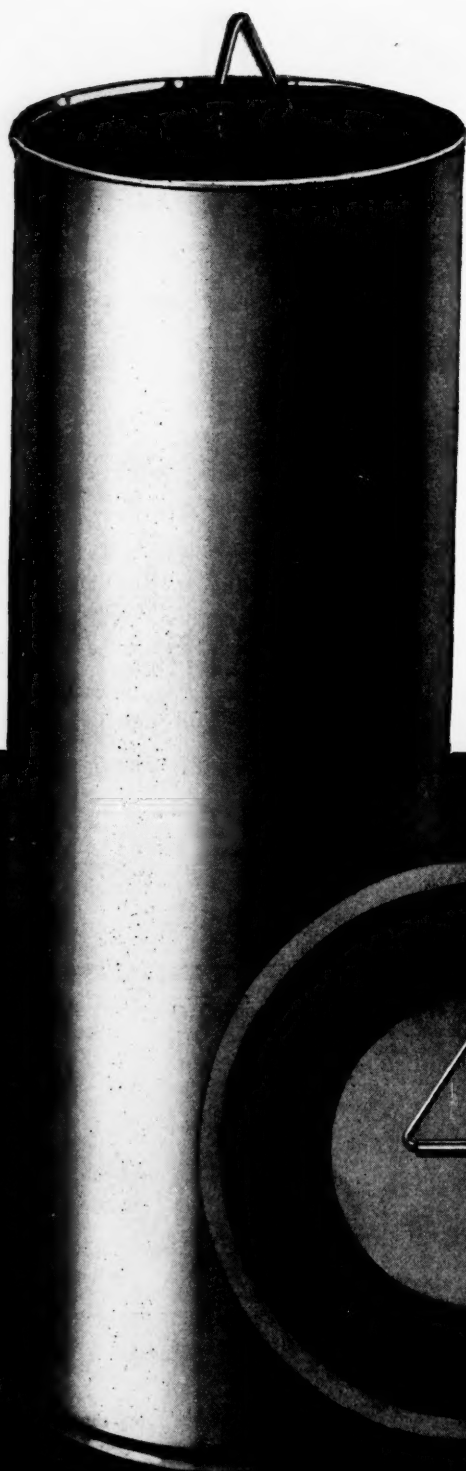
LINK-BELT COMPANY

5171-D

The Leading Manufacturer of Equipment for Handling Materials and Transmitting Power
INDIANAPOLIS CHICAGO PHILADELPHIA ATLANTA SAN FRANCISCO TORONTO
Baltimore Dallas New Orleans
Offices in Principal Cities



SOME FACTS ABOUT THIS



This is the first announcement in trade publications of NITRAMON—a new product developed during the past four years in the du Pont research laboratories.

This new patented blasting agent when manufactured and sold by the du Pont Company is identified by the trade mark NITRAMON. It differs radically in properties from any blasting material previously used in well-drilling operations.

Probably one of the most important of the many advantages of NITRAMON is its safety in handling. It is not an explosive in the accepted sense of the word. When subjected to the usual tests applied to explosives it cannot be detonated by:

—a commercial blasting cap

—or Cordeau—or flame—or by impact

The full blasting strength of NITRAMON is developed, however, when a detonating primer of sufficient energy is used.



HIS NEW BLASTING MATERIAL

tions of
past four
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vantages
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insensitiveness of NITRAMON to ordinary handling makes it possible to pack it in tightly sealed metallic containers—the water resistance of which is unlimited, provided cans are properly handled and loaded.

NITRAMON is non-headache—not only because of its package, but also because it contains no glycerin.

is absolutely non-freezing.

NITRAMON is made in five grades, A to E, inclusive, all having the same high strength per unit weight. These grades differ only in density, that is, in bulk strength or strength per foot of bore hole. They are packaged in cans ranging upward in size from 4 inches diameter by 16 inches in length.

NITRAMON is recommended only for *quarrying, open-pit mining, stripping* and other operations where well drills are used and large holes are the practice.

The photos shown below were taken at a typical quarry where fourteen holes, 6 inches in diameter and averaging 105 feet deep, contained the necessary NITRAMON.

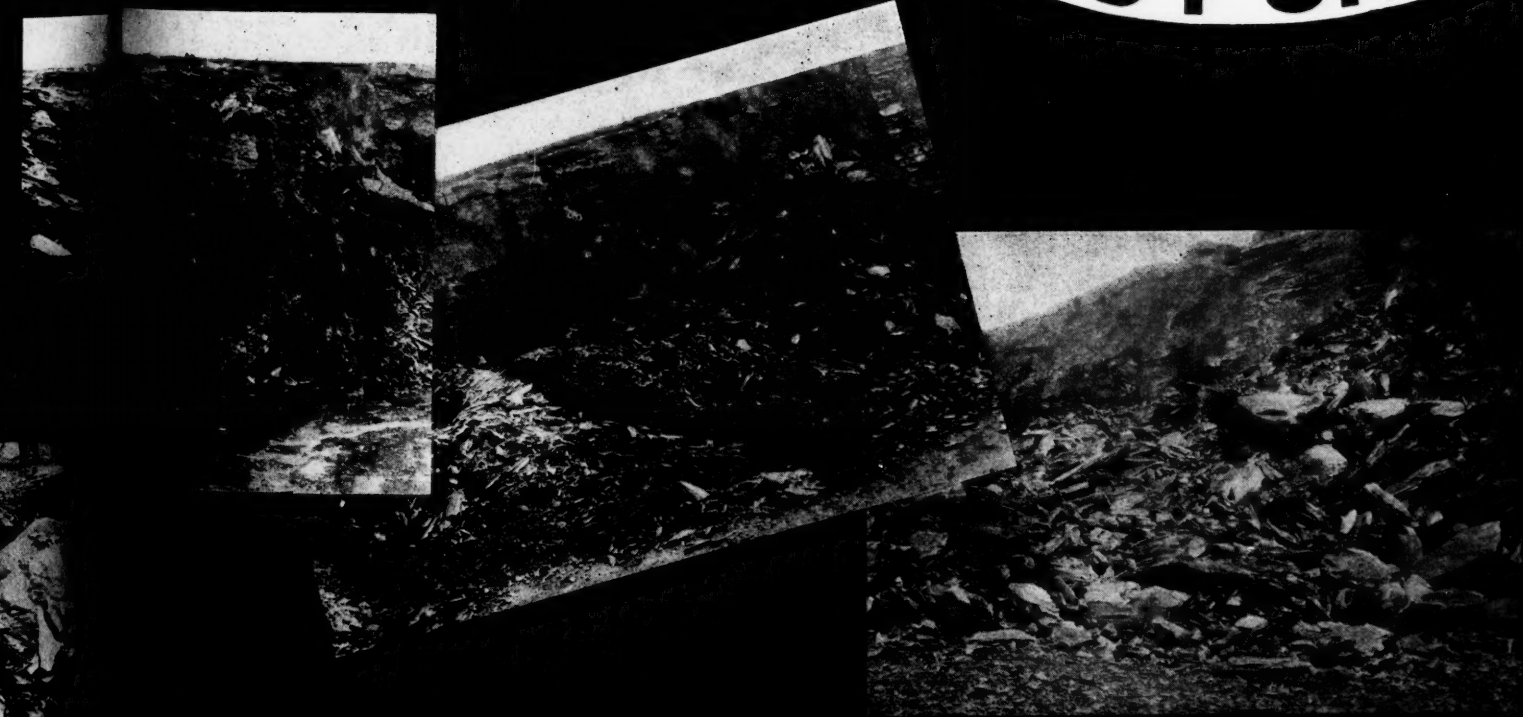
Not only were potential hazards to life and property reduced, but results, excellent in point of execution, were secured at a *substantial saving in cost* as compared with explosives previously used.

A bulletin containing information relative to methods of use, grades available and other practical information will be sent on request. Please address nearest office.

E. I. DU PONT DE NEMOURS & CO., Inc.
Explosives Department Wilmington, Delaware

BRANCH OFFICES:

Birmingham, Ala.; Boston, Mass.; Chicago, Ill.; Denver, Colo.; Duluth, Minn.; Huntington, W. Va.; Joplin, Mo.; Juneau, Alaska; Kansas City, Mo.; New York N. Y.; Pittsburgh, Pa.; Portland, Ore.; Pottsville, Pa.; St. Louis, Mo.; San Francisco, Calif.; Scranton, Pa.; Seattle, Wash.; Spokane, Wash.; Springfield, Ill.; Wilkes-Barre, Pa.

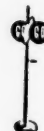




A CITY THAT

is looking for

A WAY OUT



IT is a beautiful city, an ambitious city, but it is pathetically debt-ridden. Municipal properties are wearing out because it costs so much to keep them up. The municipal street cars are pounding the streets to pieces. And the cars, built twenty years ago, cannot maintain a schedule that will attract profitable traffic.

The Department of Public Service is cutting down because garbage, cleaning, and maintenance trucks are so expensive to operate.

There is a traffic bottleneck at the Main Street bridge, and the debt-service on a new bridge would be the proverbial straw.

Most of the citizens have forgotten what well-painted, well-protected municipal structures look like.

The city we have in mind is looking for an answer to these problems — an answer so fundamental that it will ease the tax-burden.

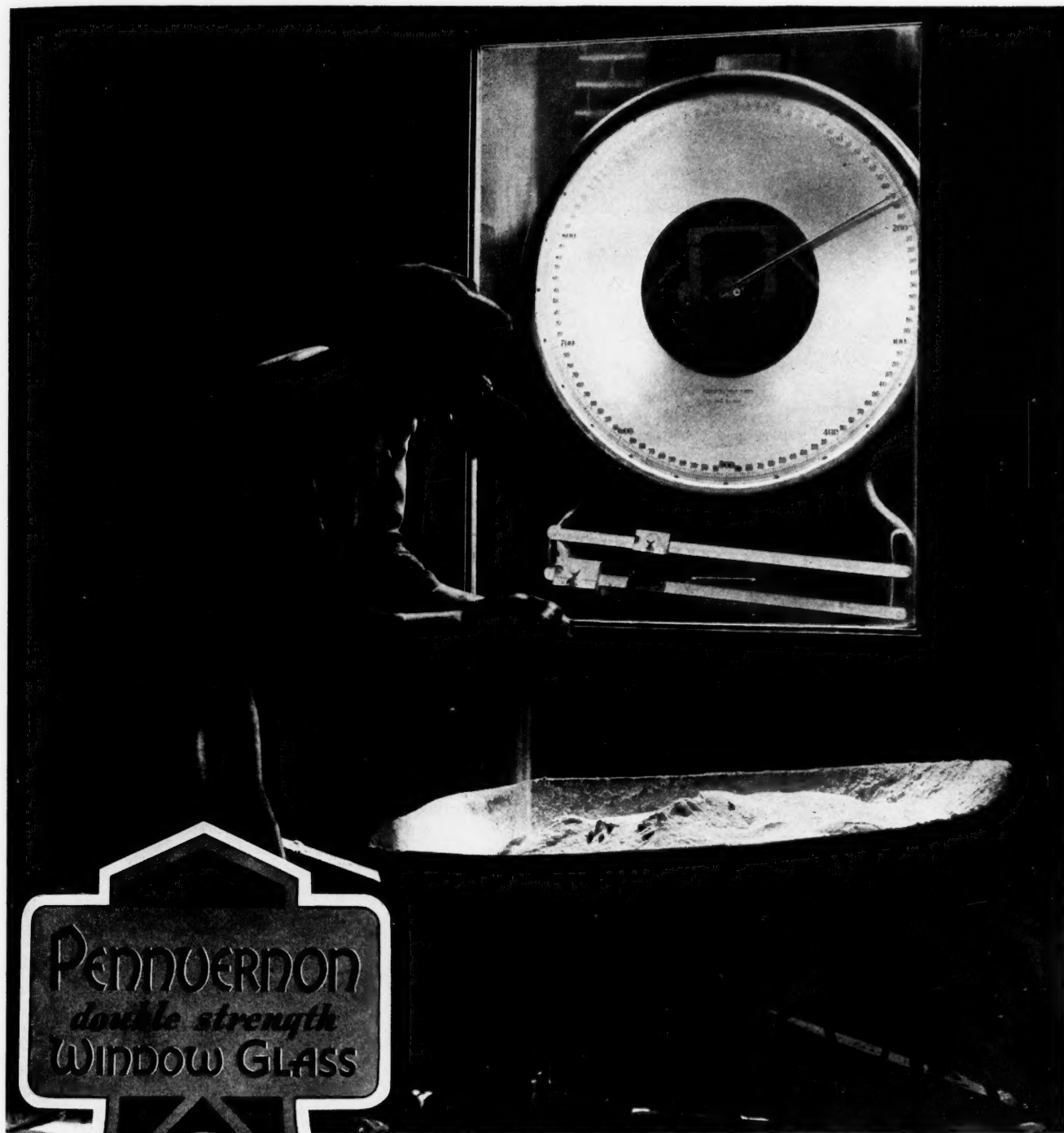
Cut to the heart of each of these problems and you find a clear need for light weight, combined with strength, and for exceptional resistance to corrosion. Those are exactly the fundamental characteristics of Aluminum.

Lighter street cars mean lower costs and greater speeds; lighter motor trucks mean lower costs; lighter bridge floors mean added traffic with equal or greater safety. Aluminum structures wear longer, and surfaces painted with Aluminum paint are better protected because this metal resists weather and corrosion.

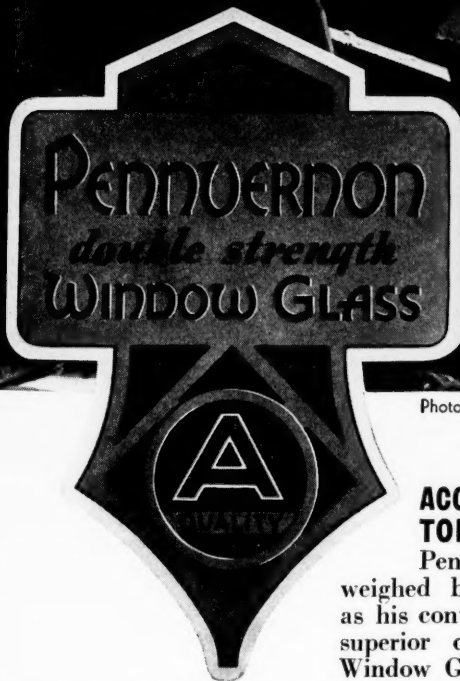
For almost fifty years, we of Aluminum Company of America, with homes in many cities, have been working to reduce the price of Aluminum, to increase its strength and usefulness, and to make it available for just such fundamental services to all the cities of America. For our country can go forward only as our cities advance. ALUMINUM COMPANY OF AMERICA, PITTSBURGH.

forward via fundamentals

Use "PENNVERNON"..not just "window glass"



Photograph by Johnston & Johnston



ACCURATE TO OUNCES IN MANY TONS! The pure, specially selected Pennvernon ingredients are carefully weighed by this Pennvernon Craftsman as his contribution to the creation of that superior quality for which Pennvernon Window Glass has become justly famous.

Our new booklet, called "The Making of a Leader", describes in dramatic pictures the manufacture of Pennvernon Window Glass. To get your copy of this interesting book, sign and mail this coupon to

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PLATE GLASS COMPANY
 2372 Grant Building, Pittsburgh, Pa.

Name _____
 Address _____
 City _____ State _____



Surgeons of Steel

CALL ON OIL FOR HELP

THE ROUGHING TOOL of the heavy-duty lathe cuts through tough steel as if it were soap. The lip of the tool absorbs terrific heat—enough to kindle its edge to white hot ruin, if it were not for the stream of cooling oil.

Today with new, harder metal alloys—with deep cuts, higher spindle speeds and coarser feeds—that stream of oil is a vital factor in accurate work, higher production, superior finish and lower costs.

And because it is so important, the demand for the fine quality cutting and soluble oils produced by Socony-Vacuum has

considerably more than doubled during the past twelve months.

Out of Socony-Vacuum research came the first broadly successful transparent sulphurized oils. Careful manufacturing control keeps these superfine oils always uniform. Other Socony-Vacuum cutting oils and coolants, almost equally remarkable, have followed in quick succession.

These new oils have swiftly won a preferred place in the metal-working field. Throughout the industry they are doing faster, more dependable, more economical precision work. Seldom, if ever, has a new

line of products found such a quick acceptance with the cautious industrial buyer.

To Socony-Vacuum Engineers these excellent products are only one phase in the work of helping customers in every line of industry show a "Lubrication Profit"—power saved, more continuous production flow, decreased repair costs and lower costs of lubrication itself.

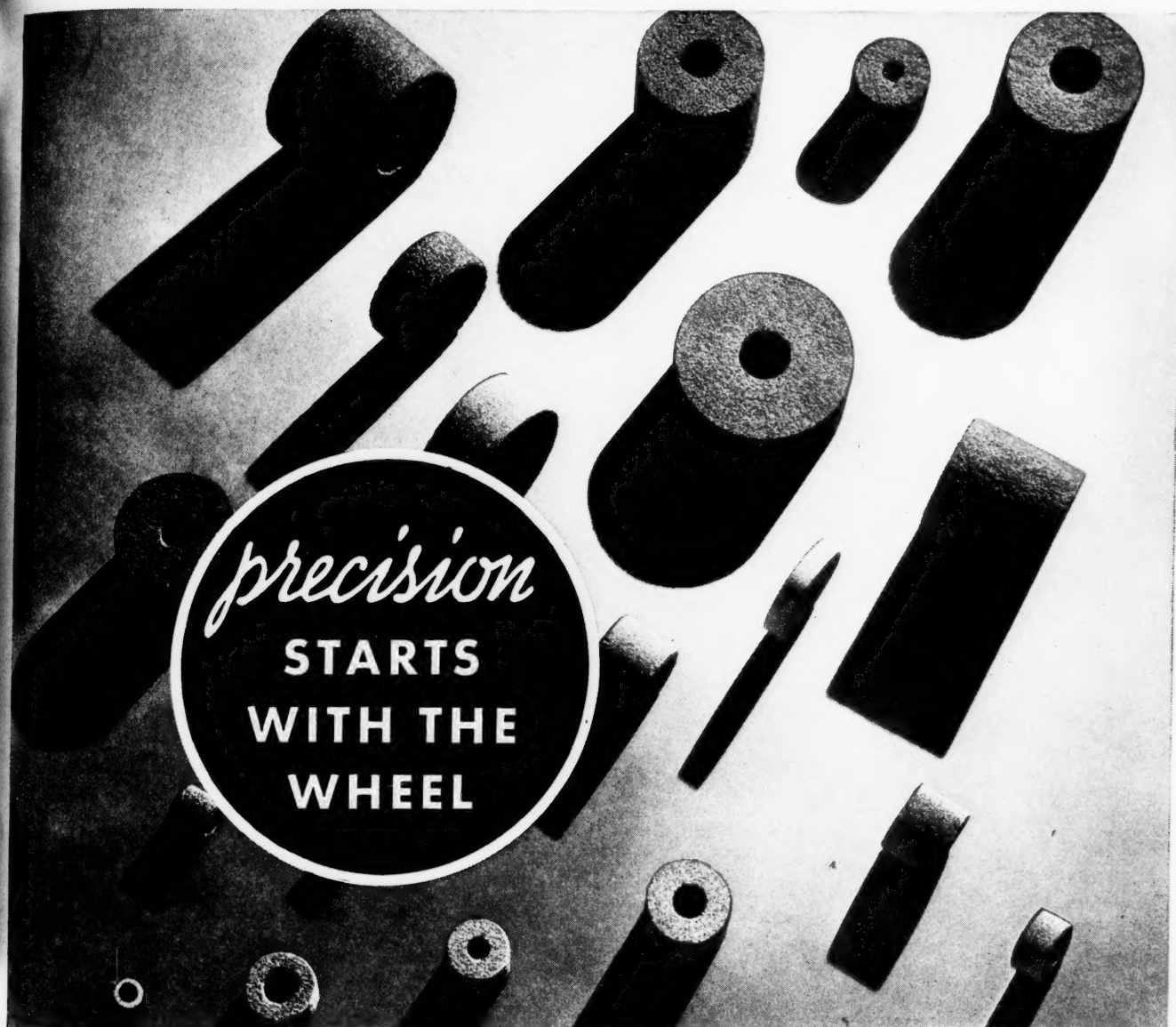
These engineers bring to your plant the knowledge, the practical experience and the complete Socony-Vacuum line of products that make a "Lubrication Profit" possible.

SOCONY-VACUUM OIL Co.

INCORPORATED

STANDARD OIL COMPANY OF NEW YORK • VACUUM OIL COMPANY • WADHAMS OIL COMPANY
WHITE STAR REFINING COMPANY • LUBRITE REFINING CORPORATION • WHITE EAGLE OIL CORPORATION
MAGNOLIA PETROLEUM COMPANY • GENERAL PETROLEUM CORPORATION OF CALIFORNIA





precision
**STARTS
WITH THE
WHEEL**

SOME time ago The Carborundum Company introduced Internal Grinding Wheels made, built almost to micrometer exactness—with holes finished to extremely close limits of accuracy and placed in the exact center.

It was a big step towards greater precision in internal grinding. It was a grinding wheel contribution that has been warmly welcomed by industry.

But in addition to accuracy in dimension there is accuracy in gradings and grits, and wheel structure. Such accuracy results in wheels that cut

clean, fast, free—hold true to shape—increase production—and make possible highly accurate work. They can always be duplicated in grit, grade, structure, and dimensions.

These wheels are produced in Carborundum Brand Silicon Carbide and Aloxite Brand Aluminum Oxide, to meet all internal grinding needs.

Improved **INTERNAL
GRINDING WHEELS**

THE CARBORUNDUM COMPANY

REG. U. S. PAT. OFF.

THE CARBORUNDUM COMPANY, Niagara Falls, N. Y. Canadian Carborundum Co., Ltd., Niagara Falls, Ont. Sales Offices and Warehouses in New York, Chicago, Boston, Philadelphia, Cleveland, Detroit, Cincinnati, Pittsburgh, Grand Rapids; Toronto, Ont. (Carborundum and Aloxite are registered trade-marks of The Carborundum Company).

APRIL NINETEEN THIRTY-FIVE

15

GET THESE



★ **LOW FUEL COST** ★ **LOWER ORIGINAL COST** ★ **LOWER MAINTENANCE**

After getting
a bought
LO" at Ca
the work at L

SE *facts* ★

ABOUT ECONOMICAL TRACTOR OPERATION

WHEN it comes to tractor costs, there is just one figure to consider—one figure that means the difference between profit and loss—FINAL COST. Low fuel costs are fine . . . but sad is the story when repair costs are forgotten . . . or when no allowance is made for condition of the tractor when the job is done.

A-C Oil tractors do the work at Lowest Final Cost because they do not stop with low fuel costs. They burn low cost fuel and little of it. Their first cost is lower because horsepower and weight are properly balanced through improved design. Maintenance is lower because internal pressures are less than one-third those of the compression type. Depreciation is less because A-C Oil Tractors can "take it" . . . as demonstrated on tough jobs throughout the country.

When it comes to performance . . . A-C Oil Tractors consistently make more trips . . . do more work . . . at lower cost . . . than any other tractors built. Users who want FACTS are demonstrating this every day by actually comparing costs before they buy.

MODEL "L-O" . . . 76 DRAWBAR HORSEPOWER
MODEL "K-O" . . . 48 DRAWBAR HORSEPOWER

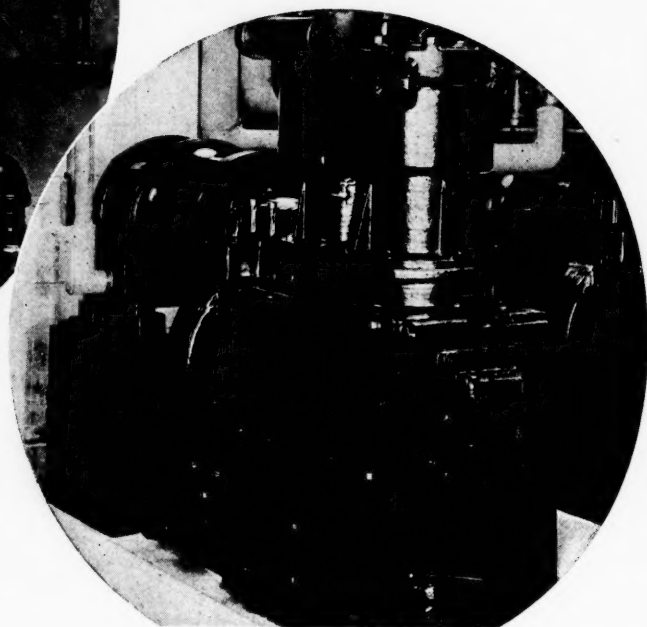
ER MAINTENANCE + LESS DEPRECIATION = LOWEST FINAL COST

After getting the *facts**, McCormick Lumber Co. bought five Model "L-O" Tractors. This "L-O" at Camp Union, Washington, is doing the work at LOWEST FINAL COST.

ALLIS-CHALMERS
TRACTOR DIVISION—MILWAUKEE, U. S. A.



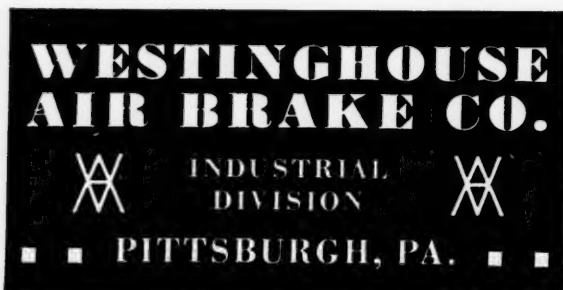
For Every
Industrial Use



WESTINGHOUSE

Air Compressors and Accessories

For any pneumatic requirement Westinghouse apparatus gives efficient and lasting service . . . Air compressors are available in sizes ranging from 4 to 300 cu. ft. displacement—steam-driven or motor-driven—and a complete line of accessories—those that are required for every compressor installation, and those that may be needed for various classes of air-actuated devices.



Air Cylinders

Air Gages

Air Horns—"Pneuphonic"

Blowing Nozzles

Cut Out Cocks

Electro-Pneumatic Valves

Gaskets, "WABCO"

Governors

Hose and Fittings

Operating Cylinders

Operating Valves

Packing Cups, "WABCO"

Reducing Valves

Storage Reservoirs

Signal Systems

Whistle Valves

Hydraulic Turbines

•
Francis and High Speed Runners
•

Without obligation, our Engineers are available to assist you in your power expansion program.

Write for our latest catalog entitled
"Water Power Equipment"

Address Communications to

Newport News Shipbuilding and Dry Dock Co.
(*Hydraulic Turbine Division*)

90 Broad Street, New York, N. Y.

Newport News, Virginia

COURTESY
IS A PART OF
PRECISION
TRANSPORTATION



NORFOLK AND WESTERN
RAILWAY



PRECISION TRANSPORTATION

• Manufacturers Record •

OUR COTTON LOSS

THE harmful effect of America's cotton curtailment program have become increasingly pronounced. Continued loss of foreign markets and the recent break in prices which have been artificially maintained above world levels are facts that refute all theories that the United States can, by legislation, control the price of cotton in world markets.

Considering the amount that accrues to those rendering various necessary services in handling cotton from farm to mill, there has been a staggering loss to labor in the curtailment program. Reminding us that it is axiomatic in the South that a short crop of cotton means reduced purchasing power, the Cotton Industry's Employees' Association of Houston estimates that this labor loss ranges from \$15 to \$18 a bale. While there is some variation in the rate paid for cultivating, picking, ginning and compressing, as well as the amount of freight, the low value of \$15 a bale applied to the shorter crop of 9,500,000 bales as compared with a 14,000,000 bale crop, amounts to an approximate loss of \$67,500,000 to labor because of decreased production. Cotton field labor has had to bear the burden of this loss of employment and millions of workers have been forced to go on relief.

Since normally about 55 per cent of our cotton is shipped abroad, the threatened permanent loss of most of our foreign markets is of the gravest concern. Total exports of cotton for the seven months of the cotton season August to February inclusive, aggregated 3,255,000 bales valued at \$233,253,000 compared with 5,548,000 valued at \$297,612,000 for the corresponding seven months of 1933-34. Decreases from last year in the number of bales shipped from the United States were registered for all of the important countries. Germany's consumption of American cotton dropped from 1,023,000 to 233,000 bales, France from 633,000 bales to 275,000 bales, United Kingdom from 972,000 to 507,000 bales. The extent to which foreign cotton growing countries have developed their cotton industry and have taken advantage of the curtailment policy which has prevailed in the United States in recent years is shown in the following table of cotton production compiled from com-

mercial cotton statistics given by A. H. Garside, the New York Cotton Exchange economist:

Bales Commercial Cotton Production

Year	United States	Foreign Countries
1931-32	16,877,000	9,658,000
1932-33	12,961,000	10,624,000
1933-34	12,712,000	12,615,000
1934-35	9,571,000	12,925,000

For the 10 years prior to 1932, the South produced an average of 13,318,000 bales or nearly 58 per cent of the world's commercial cotton production. For the first time in recent history the cotton production of the United States is less than the output of the rest of the world. The steady gain in foreign cotton production—a direct result of crop restriction and attempted artificial price control—is especially serious in the face of the tendency at Washington to minimize the possibility of exotic growths taking the place of American cotton in those foreign markets which have heretofore been distinctly ours.

The 1934-35 statistics probably do not tell the whole story. The expected production for Brazil, for instance, is estimated at 950,000 bales, but this figure will be nearer 1,250,000 bales and the next crop will be greatly increased, probably 1,600,000 bales, or it may reach 2,000,000 bales.

While the United States has been reducing its production to the extent of 7,306,000 bales less this year than in 1931-32, foreign cotton growing countries have been taking full advantage of the United States cotton policy by increasing their production by more than 3,000,000 bales.

Notwithstanding this decreased output, as the result of government loans in the past, and the present policy, the United States Government, at the end of the present cotton season on July 31, will be the virtual owner of approximately 6,000,000 bales of cotton which can only be sold at great loss to the taxpayer and with demoralizing effect on the sale of this year's crop.

Our other exports, not including cotton, increased about 38 per cent over 1933. The graphic picture of the effect of the loan feature whereby American cotton is held above the world price is directly reflected in decreased exports. So far this year the decrease is more than 2,293,000 bales, or 40 per cent. Further-

more, while business generally improved, domestic consumption of cotton in the United States decreased 14 per cent in 1934 from 1933.

Proposals now offered in Washington to solve the Cotton problem not only include a continuation of the 12c Cotton Loan plan to farmers, but an increase in the acreage reduction from 35 per cent to 50 per cent and some advocate a forthright subsidy by diverting a part of the customs receipts each year for the payment of export subsidies and additional benefits to crop producers, or by allocating, for benefits only, a part of the \$5,000,000,000 Work Relief Bill.

Secretary Wallace said only a few days ago, "With cotton at its present price there is much more likelihood the processing tax will be raised instead of lowered."

The processing tax has fallen so far short of what its advocates expected of it, that it would be much more to the point to discuss "why any processing tax at all?" The plain truth of the matter is it has retarded production and stopped buying. As Senator George of Georgia says, "it is, at the present price of cotton, a sales tax of 40 per cent." It is class legislation and the idea of a processing tax is fallacious in conception and inequitable in execution. It would be well for the country to do away with it.

The policies of the Administration with regard to cotton can hardly be reconciled with the Democratic platform of 1932:

"We condemn the extravagance of the Farm Board, its disastrous action which made the Government a speculator of farm products and the unsound policy of restricting agricultural products to the demands of domestic markets."

As we have said before in this place, the solution is not one to be solved by legislation; nor does it lie in price control schemes; nor in the management of agriculture by government bureaus. The only solution depends on the ability of the American farmer to grow a cotton crop of better staple at less cost per acre and sell it profitably at a competitive price.

POLITICAL PIRACY

WHETHER there is need of reform or further regulation of public utilities or not, it is clear to any intelligent observer that this is no time to throw a new scare into the American people, or to start a reform that is not vital to recovery. The Wheeler-Rayburn Bill now before Congress can not help but be violently upsetting in its ruthless rearrangement of the power industry and the attending confiscation of the holdings of some 10,000,000 investors.

There is no need to go further, really, to condemn the action proposed. These investments have real value, most of them readily salable, some bringing in a steady income, and all of them, unfortunately, rated at prices today much less than would be the case if

fears of Government ownership were removed. Certainly to wipe out this wealth is unthinkable, and if advanced for political reasons to save a New Deal in which the public has lost faith, deserves the strongest possible condemnation.

It is time for plain thinking and for plain speech. One major criticism of the acts of the present administration in Washington is that it has far too great a tendency to support any new idea of the moment which has an apparent popular appeal, without first weighing the probable consequences or reckoning the cost.

And, it is strangely singular in this instance of public utilities and holding companies that not one objection or criticism of their operation has been made that could not be directed at the Government's activities in the same field with equal force or greater truth, except that in the matter of degree the Government is much the worse offender.

The President has said that "the holding company must go" and he attacked the use of propaganda to thwart his objective. This in face of the fact that the present administration is outstanding for the use of the greatest ballyhoo and most extensive studiedly biased publicity that has ever emanated from Washington.

In exaggeratedly criticising the private power industry, it is interesting to see how the Federal Government carries out its precepts in actual practice. Watered stock and untrue book value of private utility properties have been mentioned. The Government, in its operation, carries on the books of the TVA at \$21,000,000, Muscle Shoals properties which cost the American public \$125,000,000—for rate making purposes! It proposes to consider only 50 per cent of the cost of any new dams built in the Tennessee Valley when rates for the sale of electricity are determined, charging the rest of it to flood control and navigation.

Private utilities have been accused of overbuilding their generating capacities, yet, the Federal Government comes into an area already overbuilt by more than 60 per cent from the standpoint of existing demand, with projects that will double the present excess capacity.

These are only a few of the practices followed by the Federal Government which have been so strenuously condemned in private utilities. If they had been followed in the same degree by private enterprise, the guilty company would have been pilloried.

The obvious purpose under the Wheeler-Rayburn Bill can only be the nationalization of the entire power industry. It doesn't make sense otherwise. And if this is so why shouldn't the properties be appraised and the present owners given a fair price rather than seized by an act of political piracy.

When this is done, however, and the Government completely owns the power industry, what will be done to replace the taxable wealth that is wiped out? This is already an acute reality in some Southern communities where the TVA operates. Bankruptcy threatens the counties affected. In some instances, their taxable wealth has been decreased by 35 per

cent as a result of Government property purchases and the consequent removal from local tax rolls. Here is a question that can not be answered by high flown phrases, nor by general statements that the purpose of this new legislation is not what it seems, that criticism of it is propaganda designed to exploit fallacious fears.

Much more tangible good will be gained by attacking the practical problem of balancing the Federal Budget and by letting be "reforms" which can not possibly succeed in practical operation and only add to the confusion that is confounding the country.

COTTON MANUFACTURING SUPREMACY

WITH the Southern Textile Exposition opening next week at Greenville, S. C., and the annual convention of the American Cotton Manufacturers to be held April 25-27 at Augusta, Ga., the attention of textile, allied interests and servicing industries is centered on the South. This section, despite adverse code restrictions and arbitrary reduction of wage differentials, has continued its supremacy in cotton manufacturing. Last year, the South reported 72 per cent of the spindle hour operation of all cotton mills in the United States. It consumed 80 per cent of all cotton used in American mills.

The value of the output of Southern cotton mills is in excess of \$595,000,000 based on the 1933 census of 702 reporting establishments including approximately 980 individual mills. In that year they expended about \$342,000,000 for materials, fuel and power. Southern cotton mills during the past five years of the depression have been the world's largest purchaser of textile machinery and supplemental equipment for modernization purposes. New plants have been added in many branches of the industry. Wages paid, exclusive of salaries, amounts to more than \$141,000,000 a year.

Southern cotton mills have been one of the few industries to show an increase in activity compared with the previous comparable census of 1931. They increased their expenditures for materials and power by more than \$73,000,000 and the value of the output was increased by \$86,000,000.

Cotton Manufacturing in the South

States	Census 1933 Number of Establishments	Cost of Materials and Power	Value of Products
Alabama	75	\$40,696,153	\$66,939,045
Arkansas	3	728,861	1,128,870
Georgia	125	76,206,760	126,301,007
Maryland	8	1,754,777	3,218,927
Mississippi	11	2,601,496	4,674,842
North Carolina ..	289	107,475,979	189,750,739
South Carolina ..	145	90,327,767	162,410,918
Tennessee	14	6,713,032	12,779,154
Texas	24	5,185,449	8,715,456
Virginia	8	10,291,248	19,949,417
Total South*	702	\$341,981,522	\$595,868,375

*Figures for several mills in Kentucky and Louisiana not available without disclosing operations of individual plants.

Active spindles in Southern cotton mills in 1934 numbered 18,552,000, or a gain of 593,000 spindles

over 1933. The increase in active spindles in the rest of the country was 255,000. With a total of 30,942,000 spindles in place in all cotton mills of the United States, the South has 19,369,000, or about 62 per cent of the country's installed cotton spindles. In addition, there were 182,666 spindles in Southern woolen and worsted mills in 1934. There were 342,000 active looms in Southern mills, or a gain of 1,282, over 1933.

Southern cotton mills consumed 4,607,000 bales of lint cotton last year out of a total domestic consumption of 5,700,000 bales.

If all textile and allied lines and garment making enterprises are included, the South has more than 2200 establishments which purchase in excess of \$600,000,000 of materials, fuel and power a year, and produce goods valued at more than \$1,060,000,000 annually. In addition, there are some 400 cottonseed oil mills, which, in 1934, had an output valued at \$106,000,000, and approximately 15,000 cotton gins through which the raw cotton must pass before it is available for spinning.

While cotton manufacturing is the dominant textile activity in the South, the value of the output of its 320 knitting establishments exceeds \$134,000,000 a year. Knitting mills spent about \$64,000,000 for materials and power. Rayon manufacture, of which the South has about 10 per cent of the country's capacity, was active with an output valued at more than \$20,000,000. In four states of the South 49 dyeing and finishing plants reported a production of more than \$48,000,000.

Although incomplete, since some states are not included because the figures would reveal production of individual establishments, the following gives a fair idea of the extent to which other lines have been developed:

	Number of Establishments	Value of Products
Men's clothing	307	\$53,548,000
Men's work clothing	228	67,506,000
Women's clothing	235	35,338,000
Silk and rayon goods	70	42,069,000
Bags	54	39,612,000
Awnings, tents, canvas, etc.	163	4,542,000
Cordage and twine	25	8,958,000
Hats and caps	30	1,972,000

As indicated, some progress has been made in developing industries to use the finished output of spinning and weaving mills. It is in the fabricating and garment manufacturing field that opportunities for establishing manufacturing plants would seem to offer the greatest possibilities and bring about a well-rounded textile and allied industry in the Southern States. To secure this logical development, the South must be on guard against discriminatory regulations and wage scales that dominating groups in other sections would like to see imposed.

The meetings at Greenville and Augusta will be of unusual importance. The industry today, because of the processing tax and foreign competition from low wage countries, is facing a most serious situation. Many mills are operating at a direct loss on sales made or are accumulating inventories. Some that did not lose a day of operation during the recent widespread strike are at a loss to know how to proceed. The South is vitally interested in the grave problem confronting its principal industry.

THE BANKING ACT OF 1935

By

Francis Marion Law

President, First National Bank in Houston, Texas. Immediate Past President, American Bankers Association

THE Banking Act is an omnibus bill with three titles:

Title One deals with permanent deposit insurance for banks.

Title Two consists of amendments to the Federal Reserve Act.

Title Three is made up of amendments to the Banking Act of 1933.

Titles One and Three are for the most part non-controversial, but there is difference of opinion, plenty of it, with regard to Title Two.

Bank Deposit Insurance

The Federal Deposit Insurance Corporation Board set up and approved the provisions of Title One. Instead of unlimited assessment on member banks, Title One provides a maximum of one-twelfth of one per cent per annum upon total deposits of insured banks. It further provides that a lower rate may be fixed from time to time. The rate of assessment will be largely determined by the degree of soundness with which insured banks are managed. Therefore, it is a wise proposal indeed that the FDIC Board shall have power to terminate the membership in the Fund of an insured bank where it is found that the bank's directors are permitting the continuance of unsafe and unsound practices. Before any bank can be expelled, however, it will be given a fair opportunity to be heard. Application of non-member banks for membership in the Fund must be approved by the FDIC before the bank may become insured. Formerly mere solvency was the test for admission to the insurance fund, but it is now proposed that a higher standard should be employed. In 1921 the

country had 31,000 banks. This number has been reduced by one-half, and we still have too many. It should not be possible for any community to be loaded down with more banks than it can properly support. The importance of these two provisions in Title One cannot be over-estimated. The success or failure of permanent insurance of bank deposits hinges very largely on the right use of the authority which these provisions afford.

It is understood that the provisions of Title Three have been submitted with the full approval of the Comptroller of the Currency. All of these seem to be sound, helpful and in order.

Federal Reserve Act Amendments

The amendments to the Federal Reserve Act have to do with:

- a. Organization.
- b. Policies and practices.

There are at present eight members of the Federal Reserve Board, consisting of the Secretary of the Treasury, the Comptroller of the Currency and six appointive members. These last are chosen by the President and, under Title Two,

they must be "persons well qualified by education or experience, or both, to participate in the formulation of national economic and monetary policies." Appointive board members will serve for twelve years; they will have their salaries increased to \$15,000, putting them on a basis with the Cabinet; and they may retire at the age of seventy on a basis of pay which seems equitable. By many it has long seemed desirable that the Federal Reserve Board should be the Supreme Court of Finance, with the Governor occupying the role of corresponding to that of Chief Justice.

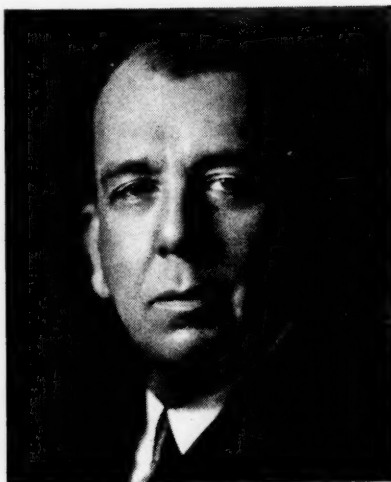
The offices of Governor and Chairman of the Board of each Regional Bank are combined and the office of Federal Reserve Agent is discontinued.

The Governor of the Federal Reserve Board will be appointed by the President and will hold office subject to the pleasure of the President. It has been suggested that the term of the Governor should run concurrently with the term of the President who appoints him, and it has also been urged that the Governor of the Board and members thereof shall be removable only for cause.

Directors of Regional Banks shall hold office for a term of three years and may be reelected but once, thereby limiting their term to six consecutive years. Governors of the twelve Regional Banks will be appointed annually by their own Board of Directors, but their appointment will be subject to the approval of the Federal Reserve Board at Washington. Whenever the term of a Regional Governor is ended he automatically ceases to be a member of the Board. The suggestion is here made that the Governors of the Regional Banks should be approved for three year terms rather than annually, so that their terms would coincide with their term as Class "C" Directors.

Title Two provides that the Open Market Committee of the Federal Reserve Board at Washington shall con-

(Continued on page 70)



Francis Marion Law

There are over 50,000,000 bank accounts in this country, which means that there are about three bank accounts to every two families. It naturally follows, therefore, that any legislation pertaining to banks is a matter of wide popular interest. The Banking Act of 1935 was introduced in the two Houses of Congress early in February. The House Committee on Banking and Currency has been conducting hearings, and the Senate Committee will soon do likewise. Titles One and Three of the Bill are not meeting with any important opposition, but Title Two is proving to be highly controversial. On this account there is a possibility that Title Two will be separated from the Bill. Congress is evidently disposed to take its time in considering this Bill and it is thought likely that there will be a number of important changes in Title Two before it goes to the President for signature.

OUR CHANGING ECONOMIC PHILOSOPHY

By

J. T. Loree

Vice-President and General Manager,
The Delaware and Hudson Railroad

FOR several centuries all Anglo-Saxon industrial, commercial and social progress has been the result of the efforts of the individual, or groups through partnerships and corporations, actuated by the expectation of profit—a system called capitalistic, based upon the venturing of the entrepreneur, or what we may call "enterprise economy." Under such a system, effort and production depend upon the desire and demand of the consumer, and in the end he is the greatest beneficiary.

In the United States the first really noticeable emergence of a new and different economic philosophy may be noted in the creation by Congress of the Interstate Commerce Commission in 1887. This body as an agency of the Government was charged with the control of certain acts of rail transportation. This philosophy was again manifest in 1907 during the presidency of Mr. Theodore Roosevelt when a great agitation occurred relative to national resources, this time under the title of the Conservation Movement.

This new economic philosophy now finds itself sponsored by the Government and experimentally made statutory law. In its development it is furthered by Executive Order and its extension and fixation is contemplated.

What is this new economic concept? It is the same whether called Communism, Socialism or Fascism. In the United States it is called the "New Deal." In every case it is a "Planned Economy."

In contrast to the former "enterprise economy," depending on desire and demand, this new economy contemplates all factors of production in the hands of the State for the benefit of the State. It is the belief of those advocating "Planned Economy" that cycles of booms and depressions can be eliminated, that money may become fixed in its buying power, that surpluses and deficits may be eliminated, that the standard of living may be raised, that social security may be attained, that wealth may be

redistributed more equitably, that national resources may be conserved; in short, that a state in control of the factors of production can be made a better state to live in.

To allow and promote such an economy, a series of legislative enabling acts have been passed. Some few directive, but in the main extending the power of the Chief Executive. Under these acts directly or indirectly every factor of production is affected and to some extent brought more immediately under governmental control. This control is exercised in the main through government corporations, commissions, and authorities, fast becoming known by alphabetical dislocations.

Such control establishments are not parts of the regular departments of government, nor are they for the most part under Cabinet officers, and up to the present time their duties are not exactly defined, so that in no small degree they overlap functionally and some confusion exists. This is still further complicated by the fact that many of their functions and efforts are diametrically opposed. They number about 40 government and 761 industrial code authorities.

Under the "enterprise economy" man put aside a portion of the compensation received by him and this created capital and credit based thereon. Under a planned economy, the State must control all capital and credit because thus control is exercised over productive

Colonel Loree gives here an interesting interpretation of "New Deal" legislation and the motives behind it from a viewpoint not generally considered. Whether the motives are clearly drawn, or not, it is forcefully shown that the machinery already built for operating the New Deal will work, if at all, only in a Socialistic State of "Planned Economy" — one where the government is in absolute control of industry and the factors of production — Editor Manufacturers Record.



Underwood & Underwood Studios

Colonel J. T. Loree

plants and production, and social security may be attained with the elimination of surpluses and deficits, seasonal fluctuation and concentration of wealth.

The first move was the General Moratorium followed by the initial devaluation of the dollar and the confiscation of the gold coin.

The control is now exercised through:

1. Federal Trade Commission;
2. Securities and Exchange Commission, ostensibly to protect investors on the Stock Exchange, but in effect controlling issuance of securities for expansion or continuing production;
3. The credit agencies of the government—the Reconstruction Finance Corporation, the Home Owners' Loan Corporation, the Farm Credit Administration, the Export-Import Bank of Washington, etc.
4. The Federal Reserve Bank which not only can fix rediscount rates but which can in effect dictate the commercial loans of all member banks.
5. The Treasury Department through its ownership of voting preferred shares in many banks.

Such are the main existing controls. In prospect is the Central Bank. Such an institution would, of course, allow the Government to issue securities without regard to the market and free it from the necessity of maintaining their price in such open market.

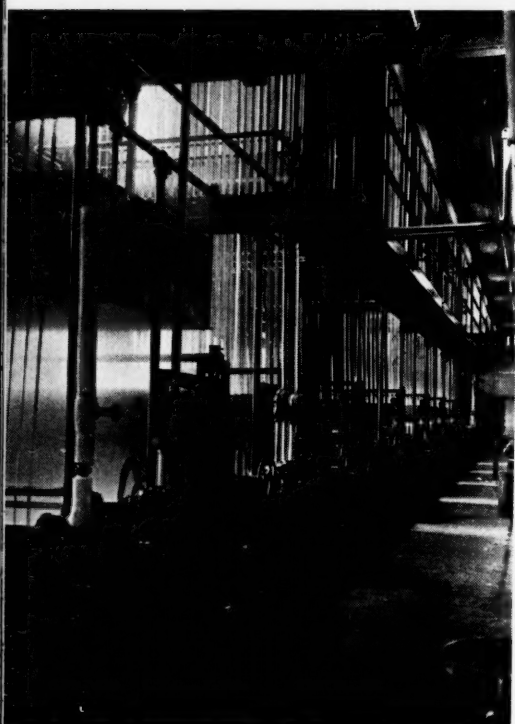
The control exercised up to the present time has resulted in a concentration of the government securities in the banks and practical cessation of industrial issues.

The labor factor is no longer free as to individual workman competing against one another in skill and location, nor may they even be isolated groups confined to plants or industry at the mercy

(Continued on page 62)



New Addition, Unit B, Martha Mills,
Sylvartown, Ga.



Largest Dyeing Machine in U. S.
Crocker indigo dyeing machine installed in
new dye house of the Lindale (Ga.) Division
of Pepperell Mfg. Co.

DIVERSIFIED INDUSTRIAL EXPANSION IN THE SOUTH

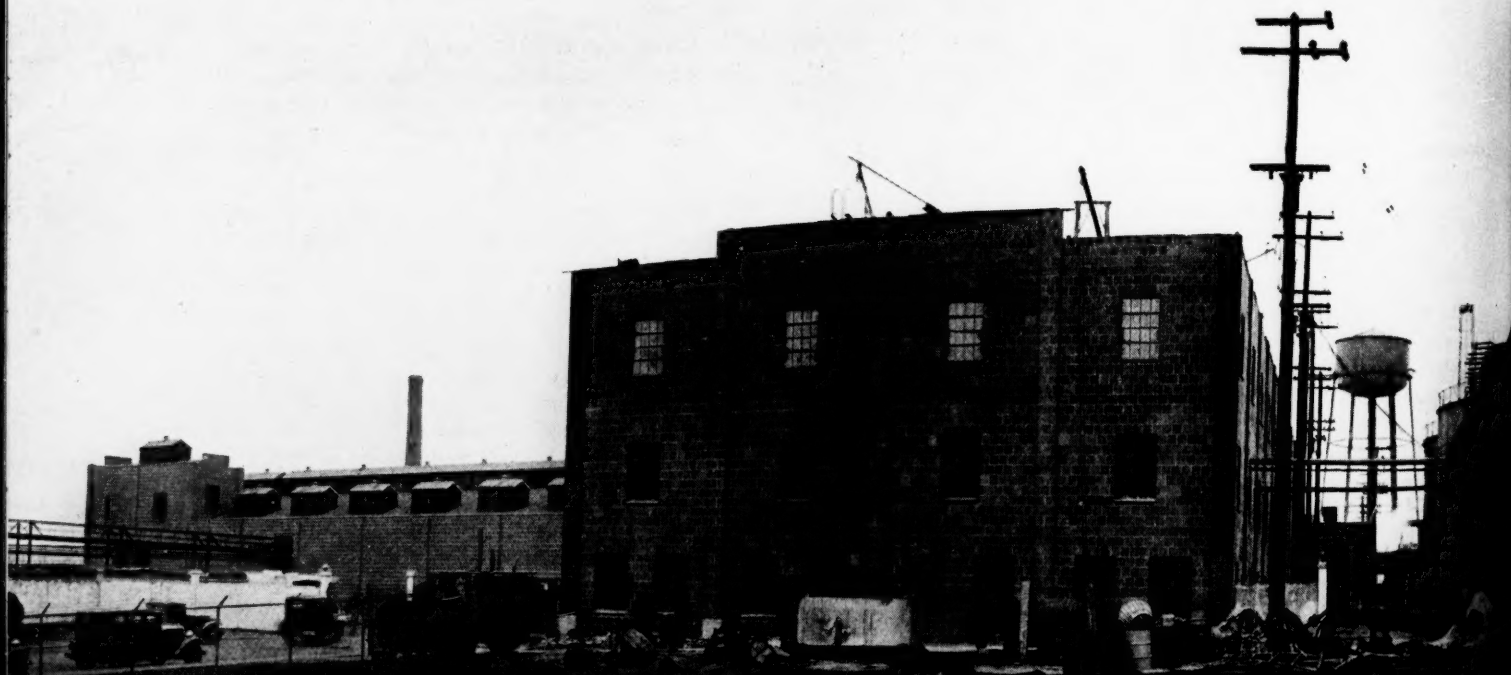
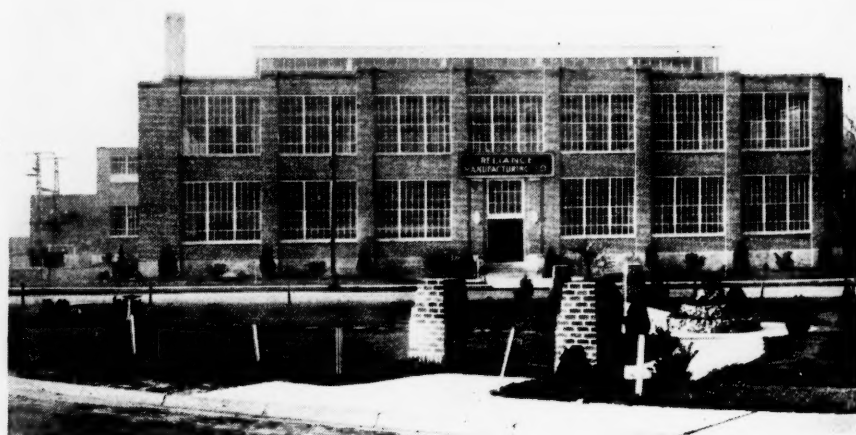
MORE than \$80,000,000 was expended for new plants, additions and improvements in the South during 1934. The accompanying illustrations are typical of some of the larger projects included in more than 60 diversified industrial lines which were added to the manufacturing capacity of the South in the past depression year.

Indicative of some of the comprehensive improvements is the rehabilitation of the U. S. Industrial Alcohol Co. plant in the Curtis Bay section of Baltimore, and its subsidiary, the U. S. Industrial

Chemical Co., in the nearby Fairfield industrial section. The illustration at the bottom of these pages shows only part of the two huge plants and the construction work initiated last fall. Erected in 1915 and 1916 to supply World War materials the structures are being thoroughly rehabilitated.

Exterior walls of cement and stucco on metal lath of the alcohol plant are replaced with load-bearing, hard-burned, glazed terra cotta tile. Corners of the building are finished in hard red face brick, with concrete window sills. Parapet walls are coped with terra cotta

Shirt Factory
Reliance Manufacturing Co.,
Hattiesburg, Miss.



Fairfield
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Chevrolet Assembly Plant at Baltimore

This new plant consists of a main 1½ story shop 600 x 900 feet; a car conditioning shop 80 x 245 feet; a storage and distribution building 50 x 315 feet; a power house 50 x 90 feet; a 2-story office building 50 x 242 feet, and other units. Part of the main building is occupied by the Fisher Body Co., producing Chevrolet bodies. Full capacity of the plant is 80,000 automobiles a year. Albert Kahn, Inc., Detroit, are the architects and engineers and the Consolidated Engineering Co., Baltimore, general contractors

trim. New Fenestra factory steel sash and frames are being installed. Erection of new walls were undertaken without necessitating any changes in the existing steel work. All of the plant buildings are being re-roofed. A 15-year Barrett specification roof is being laid, the contract totalling 1,630 squares on 12 buildings. At the Chemical plant, which has tile walls covered with stucco, general repairs have been made and a 15-year Carey roofing laid. Barney-Ahlers Construction Corporation, New York City, have the general contract for the brick and tile work, involving 100 carloads of material, the major quantity being furnished by the National Builders Supply Co., Baltimore.

Interior Virginia
Woolen Mills,
Winchester, Va.



FARM PRICES AND THE CONSUMER

By

Stanley F. Morse
Consulting Agricultural Engineer

It is claimed that so far the AAA program has achieved a considerable degree of success toward increasing farmers' incomes. It is timely that this claim be analyzed.

Increased farm income has been derived from (a) higher prices for farm products and (b) rental and benefit payments from the Government. The increase in farm prices has been due to: 1—Scarcity of farm products; 2—devaluation of the dollar; 3—a slight advance in the general price level; 4—price pegging (cotton) by the Government.

Wheat and Corn

Higher prices for wheat and corn are due mainly to the drought. With wheat there have been two short crops in succession—a rare occurrence. The reduction of the wheat crop in 1934 resulting from the AAA acreage cut is estimated at 25,000,000 bushels, which would have a negligible effect on price. With an average crop of 850,000,000 bushels the AAA reduction would have been about 8 per cent or 70,000,000 bushels, a price-increasing factor of little importance. Without drought and dollar devaluation in 1934 and with a normal wheat crop, the farm price of wheat probably would have been 50 to 60 cents a bushel.

Corn-Hog

In the case of corn the AAA corn-Hog Adjustment 1935 handbook states that its planting reduction program was responsible for a decrease of 12,600,000 acres in 1934 which at an average yield of 15.5 bushels per acre would have produced about 195,500,000 bushels or 16 per cent of the total estimated reduction of 1,200,000,000 bushels. Even with a normal corn crop the AAA estimates the decrease due to its program as not over 350,000,000 bushels. Considering that only 12 per cent of the total corn crop is usually sold (most of it being fed), the influence of the AAA reduction on price in either case would be small. So, in the case of wheat and corn drought and dollar devaluation are clearly the major factors in price increases.

With hogs both drought and monetary changes have helped to increase prices. The AAA reports that around one-half of the 1934 hog reduction may be credited to its program and the balance to the drought and consequent feed shortage. Even without a hog reduction campaign there would have been a considerable decrease in the number of hogs (probably about 25 per cent) and an increase in their price. A repercussion of hog reduction is the decrease in the lard supply and its higher price which has helped to accentuate the artificial shortage of its competitor cottonseed oil. The rise in price of cottonseed oil (and of cottonseed) involved cottonseed meal, thus affecting the prices of all competing high protein feeds like linseed meal, soybean meal and peanut meal. These feeds (and others), necessary for dairy cows, have been fed less as they became scarcer and their prices advanced, thus producing less milk and butter. The result is higher prices for butter which now have reached the point where New Zealand butter can pay the duty of 14 cents a pound and enter this country to compete with American butter.

Cotton

Cotton prices also have been affected by the cheaper dollar and by drought (a reduction of 1,400,000 bales in Texas, Oklahoma and Arkansas). But, although the operation of the Bankhead Act materially reduced the 1934 cotton crop, the main reason for higher cotton prices is the Government price-pegging loan to farmers of 12 cents a pound on their cotton. Actually 39 per cent or 3,800,000 bales of the 1934 crop has not been sold but is still held by Government agencies as security for its 12-cent loan. In addition the Government holds 1,800,000 bales more or a total of 5,600,000 bales, which holdings may depress the price of cotton or result in a loss to the Government. Incidentally, the maintenance of this high price level for cotton has caused foreign buyers to purchase cheaper foreign cottons instead of American. The recent break in cotton prices is the logical result of this policy.

Rice

In the case of the AAA marketing agreement covering rice, fixing the price too high has resulted in the accumulation of a 225,000,000-bushel surplus. This threatens the growers and handlers with a loss which the consumers are asked to pay for by the imposition of a process-

ing tax of 1 cent a pound on rice as provided in the bill, H.R. 5221, now before Congress.

Effect of AAA Program on Prices

It has been shown that higher prices received by farmers are due in small measure to the AAA program. At the same time about one-half of the increased farm income has come from rental, benefit and livestock purchase payments made to farmers by the AAA, totaling over \$528,000,000 in 1934. An appraisal of these payments, derived mainly from processing taxes on various farm commodities, indicates that they are simply a method of "priming the pump" of farm purchasing power. The consumer (including the farmer himself) is being taxed for the benefit of the farmer. But the processing tax, used to obtain these funds, itself reduces the consumption of farm products. The processing tax cuts the consumption of wheat about 18,000,000 bushels yearly (increasing the price of bread about 1/2 cent a pound); reduces domestic cotton consumption by around 500,000 bales; and increases the price of pork products by 2 1/2 to 6 cents a pound, causing consumers to turn from pork products to cheaper meats.

Increased Consumer Resistance

The steady rise in the price of farm products, as reported by the AAA, must encounter increasing consumer resistance as it progresses. Probably the most important effect of this will be not the checking of food price increases and decreased consumption but the added cost burden to the millions of people whose incomes are still at depression levels, thus hampering any recovery movement. Only a strong industrial revival can increase consumer buying sufficiently to offset these higher living costs. And it is significant that the elements most essential to industrial recovery are still lacking. High labor costs and growing taxes make it impossible for industry to lower the prices of its products enough to stimulate increased consumption, while at the same time business is constantly bedeviled and harassed by experiment banking proposals, baiting of the public utilities, the mounting public debt, proposed measures indicating more Federal interference with business, such as licensing of processors under the AAA, supervision of railroads and communications and similar regulations.

Enormous mounting deposits in the banks and hesitating industrial activity are signs of a continuing lack of confidence. The unbalancing effect of the AAA experiment is just one more ham-

(Continued on page 68)

FIRE PROTECTION IN SLASH PINE REGION OF SOUTHEAST

By
C. C. Kuehn
American Creosoting Company
Louisville, Ky.

In Two Parts: Part I

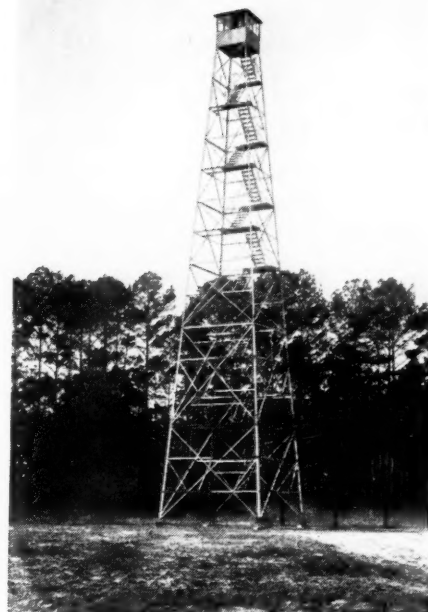
THE region in which slash pine is found, covers in general, the southern part of the Gulf States, Georgia and South Carolina and Florida. Fire protection for slash pine means, because of the peculiarity of this tree, absolute exclusion of fire. The discussion is based on this premise.

This article is divided into two parts, the first part giving a general discussion of slash pine and the type of fire protection necessary for the complete exclusion of fire, and the second part is a description of an example of such fire protection as it is found on the Satilla Forest of the Georgia Forest Products Company.

Until comparatively recent times extensive pine stands of slash pine were

Large Corporations Are Actively Interested in the Possible Purchase of Lands in the South on Which to Develop Systematically a Permanent Source of Pulpwood for Papermills. As One of the Problems Is That of Fire Protection, the Accompanying Article Presents Actual Items of Cost and Results of Operations of the Georgia Forest Products Company Which Has Successfully Won Out in Its Fight on Some 25,000 Acres in the Satilla Forest in Southeastern Georgia

rare except in the lower Peninsula and Gulf Coast of Florida. In other parts of the slash pine territory, individuals or small groups were present in the virgin forest along small streams and in swamps throughout the flat woods of the Coastal Plain. These have provided the seed for great acreages of beautiful second growth on the adjacent cutover longleaf land and on occasional old fields. Abundant seed production, very vigorous



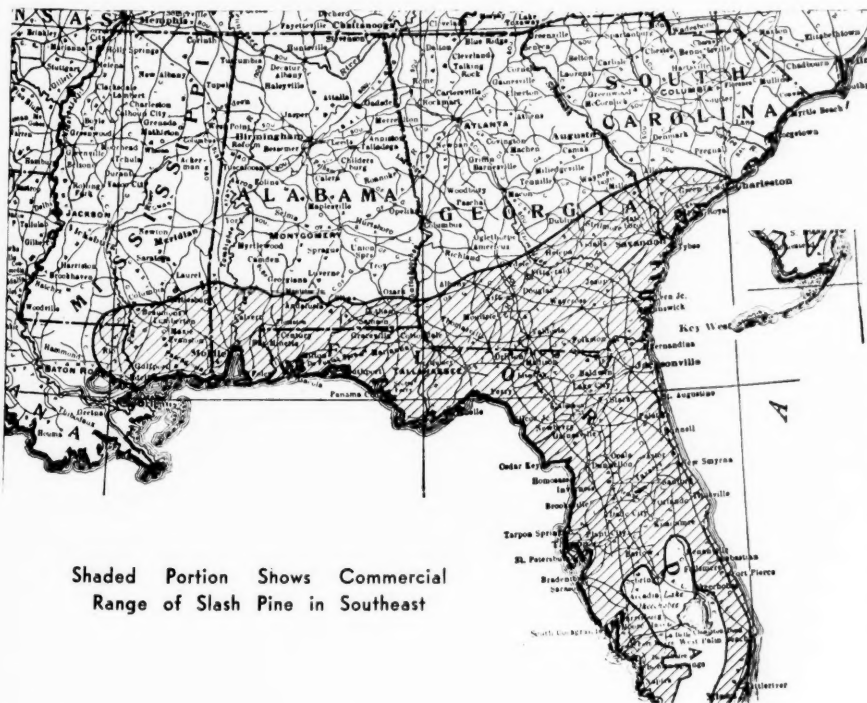
Fire Tower

early growth and ability to adapt itself to a wide range of soils are characteristic of this species. It is, however, sensitive to fire in its early years. With the spread of fire protection in the South, slash pine will be greatly benefited in its competition with longleaf for the moist flat lands, and gives evidence of taking possession of the moderate slopes as well. Slash pine produces large quantities of naval stores, averaging, more per tree than a longleaf.

The return from slash pine is greater than from longleaf, because there is a better return in turpentine. Slash pine can be worked on a shorter rotation than longleaf. Successful growing of slash pine can only be accomplished with adequate fire protection.

The period from the latter part of October until the latter part of April is the fire season in the Southeast, but the most dangerous time is during the last part of November, the months of December, January, February and the first half of March. During this period the rainfall is lowest (about three inches per month, but most frequently much less). The dead grass and undergrowth is driest, and the winds are high at this time. All this makes favorable conditions for a conflagration. Most fires are incendiary. They are set by those who either have a grudge against somebody, want to see the woods burn, or believe

(Continued on page 66)



Shaded Portion Shows Commercial Range of Slash Pine in Southeast

GROWTH OF WORLD'S LARGEST OIL PLANT

SPINDLETOP, Texas, oil field was the talk of the world in 1901, when its first oil well was brought in with an estimated production of 25,000 barrels a day. News of the momentous discovery spread quickly. Hardly days had passed before crowds of producers, and would-be producers and prospectors with limited knowledge and much less means, rushed to the scene of this new oil strike in Texas. Leases were executed; every human effort was bent to move drilling equipment to the new field. A forest of derricks soon was riding to proclaim that millions of barrels of oil would be flowing from the ground almost on the very shores of the Gulf of Mexico. The fame of Spindletop has since been dimmed by discoveries of other spectacular oil fields in Texas which continue to make it the leading producing State.

These were the events that led up to the formation of the Gulf Refining Company later in the year. In another year, at a site less than three feet above sea level on Taylor's Bayou, three cheese box stills, several boilers and a couple of pumps were set up. This marked the beginning of what is now known as Gulf's Port Arthur Refinery, the great-

Port Arthur Refinery

In the background are a maze of 2,000 tanks, 280 stills, stacks and towers and production buildings constituting a 4,000 acre plant with miles of roads and railroad tracks. The waterfront at the left affords an outlet to world markets.

The Gulf Refining Company's Gigantic Port Arthur (Texas) Plant, From Humble Beginning 34 Years Ago, Through Practically Continuous Expansion, Now Covers 4,000 Acre Site—Supplies Gasoline and Petroleum By-products to Markets of the World.

est of the world's oil plants, which in 1935 occupies a 4,000-acre site with 280 stills and 2000 tanks, large by-product plants, many miles of highways and railroads and shipping facilities for boats that reach the markets of the world.

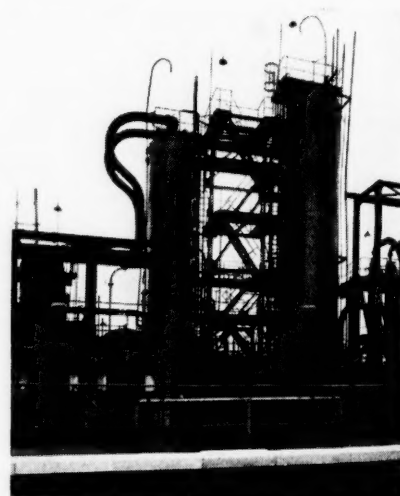
During the years following 1902, a number of plain type stills, with agitators, treating plants and complementary equipment indicated the steady growth of the plant. By 1914 there were 78 stills, of the old brick-setting sheet type, a small asphalt plant, four boiler houses, and shops for both repairs and construction. In the fall of that year came the development of the first stages of refining as it is known today. Increased use of motor-driven equipment soon resulted in erection of Port Arthur's first power plant of 1200-kilowatts. The Alcholor process, the Gulf oil or

medicinal oil plant, and the Rittman process all had put in their appearance.

August of 1915, the time of the storm and flood, was the only time in its history that the plant stopped operations. Soon after this inactivity, eleven of the new type hanging stills were built under the Alcholor process. An enormous demand for gasoline by the warring nations of Europe then required erection of the immense Alexander cracking plant. It was in 1915 that the paraffin plant for production of lubricating oil from paraffinic type oils was built. In the earlier days of the oil industry, outside of Pennsylvania, it had been the policy to take the gasoline and kerosene from the crude and sell the residue as fuel oil. Gasoline produced by the plant at its inception in 1902 was 4000 barrels.

(Continued on page 60)

A Section of Some of the Massive Equipment



GIVING THE TAXPAYER A BREAK

By

A. H. Stone

Chairman, State Tax Commission
Jackson, Miss.

IN reply to the request of the MANUFACTURERS RECORD for a discussion of the administration of the Mississippi tax laws which fall within the jurisdiction of the State Tax Commission, we would first emphasize the fact that we operate under no set formula or rule of thumb. About the only rule we have is the rule of reason. Our nearest approach to a formula may be described as giving the taxpayer a break. We assume that our taxpayers are honest, and that they will meet their just obligations to the State, if assured of a square deal and sympathetic treatment from the State in return. The results secured during the three years of our operations have apparently justified the soundness of these assumptions. We have accomplished one of the primary objectives of Governor Conner's administration,—the restoration of the State's credit. At the same time we have made possible a reduction of 37½% in the State's property tax rate, notwithstanding greatly reduced assessable values of property as a whole.

Policy of Cooperation

We have done this through the adoption of a policy of cooperation, rather than coercion, in our contacts and relations with the taxpayers of the state. We do not use the word enforce in our tax administration. We resort to fines and penalties only when the taxpayer himself leaves us no other recourse. When the present Chairman of the Commission announced this policy, on assuming office in 1932, it was received with considerable skepticism. But it has worked to the satisfaction of our people, and that, probably, is a reasonable measure of success. We had abundant evidence of a very general public conviction, at the time, that a retail sales tax law, for example, could not be efficiently administered in Mississippi or anywhere else. Certainly there was no precedent to which we might turn for guidance. The law was enacted as an emergency measure only, to expire in June, 1934. The

Legislature reenacted it in February, 1934, practically without opposition, as a permanent revenue provision.

Reaction to Sales Tax

That what we have accomplished under these methods has not been without suggestive value to other states, is pretty definitely attested by personal and official assurances from tax officials elsewhere. The following extracts from a letter just received, from a tax commissioner of one of the most important industrial states in the Union, is worth reading by those who still believe that the only way to collect taxes is through strong arm methods. It is given here, in part, without permission and without disclosing the identity of the writer, but with assurances of our very genuine appreciation:

"When we met in Indianapolis a year ago, I did not believe that your attitude in administering the sales tax in Mississippi would work in our state. It seemed to me that with our congested areas and larger cities such leniency and consideration as you were showing would tend to break down our Act and encourage evasion, if the same attitude were attempted by us.

"I have found, after a year's experience, that you were absolutely right, and that the administration of a sales tax as practiced by you is the only satisfactory and feasible manner in which such a tax should be administered. We have created good will, and generally speaking sold the sales tax to our people by following your theory, and being as human in our relations with the taxpayer as it is possible to be. We came to the definite conclusion that the taxpayers of the state have had all the headaches in the past five years that any man is entitled to in a life time; and that it is not the province of this taxing Board to add to his troubles by penalizing. This attitude on our part has won general approval, and we are being commended widely for adopting it."

We could print hundreds of letters from individuals and business concerns in Mississippi to show the reaction within the state. Here is a reply in part, from a prominent merchant and business man,—addressed to one who had requested his aid in fighting the sales tax:

"I received in this morning's mail a circular letter, signed by you, condemning the sales tax. I regret that I can not agree with you that it should be discontinued, nor do I agree with the reasons which are set up in your circular letter.

"When the sales tax was first being agitated, the opponents claimed that it would place a great hardship on merchants near Louisiana

A Discussion of the Methods and Results of Mississippi's Tax Administration During the Past Three Years. Some of the Hundreds of Letters Concerning the Plan of Administration Are Included to Give a Disinterested Appraisal of the Work of the State Tax Commission Which Should Be of Value to Other Tax Administrators Confronted With Similar Problems

and Alabama because customers would go across the State line to buy articles, especially automobiles, rather than pay a sales tax. I did not concur in this view and at that time publicly stated my position. I fought as diligently for the sales tax as for anything I ever worked for, because I felt that I should be unselfish enough to do the thing that would help our state financially. No one can doubt that the sales tax was largely responsible for the improvement in our financial condition as well as making our bonds a safe investment.

"Only yesterday I sold a block of State of Mississippi 5½% bonds due in 1947, which I purchased at a discount when the State's credit was not so good, at a price of \$112.

"No merchant need lose the amount paid for sales tax. The public as a whole is willing to pay and we never have a complaint. The object of my letter is to say that most of the merchants in our section of the country, even though we are near the Louisiana line, are in favor of the sales tax and will fight vigorously to protect same. It has proved to be the most equitably and fairly distributed tax possible and for these reasons we can not help you in your campaign for the repeal of this tax."

Opposition to All Forms of Taxes

The above letter indicates the existence of opposition to the sales tax, as well as of sentiment in its support. And, of course, such opposition does exist. Opposition to ad valorem taxes is equally definite and much more pronounced. There is opposition to all forms of taxes. But we have been asked for a discussion of administrative methods and results,

(Continued on page 58)

NEW COTTON USES

By

Ralph V. Grayson

Consulting Engineer, Atlanta, Georgia

THE importance of insulation to the food preserving industry has always been regarded highly, however, within the past decade a new order of food preservation and distribution has created new fields and broadened the old fields in which insulation is used.

A number of vegetable fibers have been formed into insulating units which seem to have great merit. The principal difficulty with the vegetable fiber insulator is the inability to maintain the fibers at uniform densities throughout the unit without the addition of some form of artificial binder which in many instances greatly detracts from the efficiency of the insulating unit.

Experience gained through the installation of several of the largest freezing plants in America, have clearly shown the tendency of standard insulation units to break down at the extremely low temperatures which are used in the preparation of frozen food. This particular failure in the fast freezing field has caused engineers to search for more efficient and more economical types of insulation. Investigation showed the advantage of cotton insulation in low thermal conductivity and economy.

Through work done in the fast freezing field, I was constrained to go into the insulation problem which confronted me daily and after examining all available data on insulation it was determined that investigations should be made to see what could be done with cotton. This was essentially a long series of experiments which finally developed several facts of importance. The first being that a short fibrous cotton was more desirable due to the fact that the penetration or transfer of heat and cold could be more substantially retarded. Second, that there was a certain maximum and minimum optimum density which must be regarded. Third, the importance of proper graining of fibers. Fourth, methods of maintaining uniform densities without loss of efficiency. With these problems mastered through a new form of board, known as Lintsulation, which has a rigid interstructure preventing collapse of the board and shifting of density, I am enabled to form a perfect insulation unit, either rigid or flexible. This unit can be subjected to unusual

torques without injury to the product or decreasing of its efficiency.

Machines have been designed and built for the efficient manufacture of Lintsulation and due to the simplicity of the machinery and its adaptability to co-ordination with standard mill machinery, there is great possibility of using a portion of the surplus cotton production.

Another method of using cotton has developed from the Lintsulation unit and that is flexible pads for carpets and rugs. An ideal cushioning effect is secured and the danger of germ contamination is greatly reduced. In this type of mat, several grades of cotton can be used or first cut linters with the Lintsulation interstructure and a covering of osnaburg or pepper drill cloth made of cotton. This is stitched at intervals on a multiple stitching machine and is ideal for manufacture in cotton mills. There is a tremendous market for this type of material. It can be rolled, twisted or carelessly turned back without the slightest damage to the mat.

There are many fields in which cotton insulation can be used. The principal ones are insulation of homes by the use of pliable sheets or in the form of Lintsulation, a product which is formed of cotton and fibre board, which is an ideal plaster base. The insulation of shipping cases for frozen foods, solid CO₂ and other products which must be shipped at requisite temperature. Consider the fact that in 1925, approximately 750 tons of solid CO₂ was produced in America and in 1931, 40,000 tons were produced. This industry is yet in its infancy and some of the wealthiest manufacturers in America are engaged in the production of solid CO₂ as a by-product in their large industrial plants. Consider further that 60 to 80 per cent of the solid CO₂ reaches its final destination in some form of insulated container. The shipment of sweet cream, ice cream, cheese, eggs and butter is all effected in some form of insulated container. A tremendous field for insulation has been developed in the domestic refrigeration field

Cotton Insulation Investigations That Offer New Markets For Producers and New and Improved Materials For Consumers

also. These fields represent millions of square feet of insulation which is now enjoyed by the paper industry through the use of low grade corrugated paper.

The insulation of railroad transportation and motor trucks is another broad field and through experience gained in the shipment of frozen food, I have found that 100 per cent of the standard refrigerator cars are improperly insulated for the lower temperatures which are the order of today.

The insulation of roofs by the medium of flexible slabs with an extended backing sheet for the purpose of doubling under and secret nailing as well as lapping and sealing the joints, seems to offer an ideal product for roofing manufacturers.

Inasmuch as roofing manufacturers deal directly with insulation in the form of slabs manufactured by other organizations, it is apparent that if they can use one ply felt board formed into the regular Lintsulation structure, filled with low grade cotton or linters, that they will have a flexible product which can be merchandised along with their standard roofing line. This may be either an insulation or it may be treated with asphalt and granules, using a two-ply backing on the surface-side treated in the usual manner with asphalt and variegated granules.

The manufacture of shingles along the same line is comparatively simple and the shadow lines effected make this a most desirable product. In considering the fact that new roofs are the order of the day, it is believed that a tremendous advantage in selling and distribution could be gained at this time through the medium of a general relief for the cotton situation upon which a vast area of the United States is dependent and with proper publicity a product of this nature

(Continued on page 64)

ESTIMATE OF POTENTIAL MARKET FOR COTTON INSULATION

	Containers	sq. ft. 1/2" thick
Solid Co ² shipments	1,000,000	6,000,000
Butter, dairy products, fresh vegetables and fruit	20,000,000	260,000,000
		sq. ft. 1" thick
Frozen foods and ice cream, fish and meats	1,500,000	15,000,000
For domestic refrigerators, trucks, refrigerator cars and cold storage		25,000,000
For home insulation, acoustical treatment and plaster base. To insulate the roofs of 50% of the homes in America based on the application of 1" of Lintsulation applied to the roof or rafters in the attics, 1,500 sq. ft. per house, a total of		18,150,000,000
Total sq. ft.		18,456,000,000

A Million Gallons up *HERE*



Maintains Uniform Pressure in the Newport News Waterworks System

The Newport News (Va.) Waterworks System obtains its supply from impounded reservoirs in Warwick, York and James City counties. The pumping station is located at Reservoir, 16 mi. northwest of the distribution system.

The pumping plant was recently changed over from steam to electrically driven pumping equipment. Three new pumps were installed.

The 1,000,000-gal. elevated tank illustrated above was installed to enable the pumping plant to operate at a more uniform rate. It is located at the

point where the transmission mains join to the distribution system. The new pumping plant and elevated tank have made a material saving in operating costs.

An increasing number of cities are installing adequate elevated storage in their waterworks systems. Some are utilizing large capacity tanks others are using a number of smaller tanks at different locations.

Our nearest office will be glad to discuss the advantages of storage facilities with municipal officials and engineers.

HORTON PRODUCTS

Elevated Tanks
Storage Tanks
Gas Holders
Steel Pipe
Smokestacks
Standpipes
Lime Kilns
Steel Bins
Hoppers
Pressure Tanks
Wiggins Roofs

All kinds of steel
plate construction

CHICAGO BRIDGE & IRON WORKS

Birmingham	1530 Fiftieth St. North	New York	3313-165 Broadway Bldg.	Philadelphia	1619-1700 Walnut St.
Dallas	1408 Dallas Athletic Club Bldg.	Cleveland	2216 Rockefeller Bldg.	Detroit	1510 Lafayette Bldg.
Houston	2919 Main Street	Chicago	2106 Old Colony Bldg.	Boston	1510 Consolidated Gas Bldg.
Tulsa	1611 Thompson Bldg.	San Francisco	1040 Rialto Bldg.	Havana	Edificio Abreu 402

B-422

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

\$110,000,000 CONSTRUCTION AWARDS IN FIRST QUARTER 1935

ENGINEERING and building contracts amounted to \$110,556,000 in the South during the first three months of this year. While this is a decrease of 22 per cent as compared with the corresponding period of 1934, it is 70 per cent more than the valuation reported in the first quarter of each of the years 1933 and 1932. The decline in construction awards this year has been in public work projects, especially in public building, road and bridge lettings. In fact, public construction has been steadily decreasing for the past six months. No doubt, with the additional funds appropriated under the \$4,880,000,000 public works bill, there will be an increase in the coming months, judging from the volume of "planned" public work, engineering operations involving highway, sewer, drainage, water-works, and flood control projects.

More Private Work

General building work financed by private capital nearly doubled in amount up to April 1 as compared with the same period last year. A noteworthy gain in industrial plant construction was recorded for the first quarter of this year—\$20,948,000 as compared with \$13,661,000 for the first three months of 1934. No major projects are responsible for the increase this year. They are

widely diversified in character with chemical industries leading.

Residential Building Up

With all classes of general building awards surpassing last year's activities, residential building operations lead the list with contracts amounting to \$8,069,000 as compared with awards up to April 1 last year of \$4,782,000. This total included only individual projects valued at more than \$5,000 each. There has been a substantial volume of new residential construction valued at under \$5,000 each. Dwellings for owner-occupancy predominate as speculative building is still lagging. Apartment and hotel construction awards increased from \$653,000 to \$2,116,000 this year.

More Store Building

Awards for store buildings in the South show a big gain, the amount of \$3,096,000 for this year to April 1 being nearly three times the total lettings for the first three months of 1934. Also, there have been extensive alterations, modernizations and additions to existing store structures.

March Awards \$29,482,000

Typical of present activity in Southern engineering and construction, as reported

by the *Manufacturers Record Daily Construction Bulletin*, are the following selected items covering some of the work proposed and awarded during March. Aggregate lettings for the month were \$29,482,000 of which more than \$7,000,000 represented privately financed industrial plants. Proposed construction and work in the "planned stage" reported during March to be awarded amounted to over \$41,000,000, including \$11,000,000 in industrial plant projects.

Proposed Work

Ala., Birmingham—Mathieson Alkali Works, Saltville, Va. and New York, selected Birmingham for Southeastern distributing center; will have warehouse and office 5 S. 20 St.; will be used primarily for distribution of dry ice; Robt. Sommers, in charge of Birmingham office.

Ala., Mobile—Bush Brothers & Co., Brook & Woodlawn, Louisville, Ky., will establish plant for sawing dogwood logs into blocks of 50 dimensions, also concentration warehouse for assembling of blocks from approximately 10 sawmills operating within 100 mile radius of Mobile; later plans handling persimmon block used for manufacture golf club heads and hickory blocks used for manufacture golf club shafts, shuttles and skis; finished product of firm approximately 2 railroad cars weekly; leased floor space on Three-Mile creek at Telegraph Rd.

Ark., Fort Smith—City receives bids after May 1 for \$1,500,000 new water supply to consist of earth dam, 8,000,000 gal. filtration plant, approximately 23 miles pipe line on which bids will be taken on conc., steel and c. i.; also receive bids on c. i. mains and connections in city; PWA loan and grant; W. R. Holway, Conslt. Engr., Tulsa, Okla.

Ark., Hot Springs—Malco Theatres, Inc., Main St., N. Little Rock, has plans in progress by Brueggeman & Swain, Gazette Bldg., Little Rock, opens bids about May 15, on \$50,000 theatre Central Ave.; brick; chromium and glass trim; 2 stories, 45x180 ft.; conc. tile and terrazzo floors; comp. roof; 4 toilet rooms.

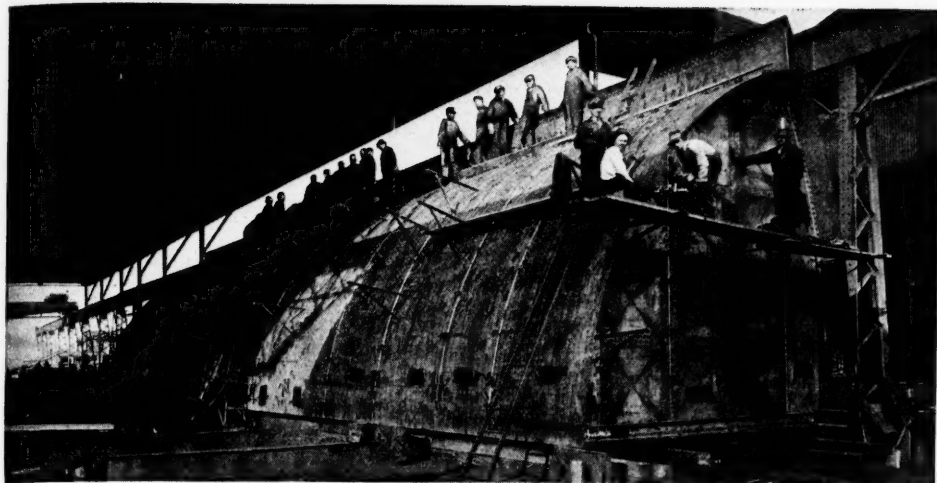
D. C., Washington—Treasury Dept., Washington, has low bid of \$313,700 from Raisler Heating Co., New York, N. Y., for installing air-conditioning system in Treasury Bldg., Washington.

Fla., Fort St. Joe—Alfred I. duPont Interests, Edward Ball, Barnett National Bank Bldg., Jacksonville, representative, acquired approximately 242,000 acres covered with slash pine in Franklin, Liberty, Gulf and Gadsden counties, west of Apalachicola River, as probable source of supply of raw material for paper mill; George F. Hardy, 309 Broadway, New York, will probably be selected as architect and engineer if mill is erected; plans not sufficiently formed for calling for bids.

(Continued on page 36)

SOUTHERN CONSTRUCTION ACTIVITY

	March, 1935		January-March, 1935	
	Contracts Awarded	Contracts to be Awarded	Contracts Awarded	Contracts to be Awarded
General Building				
Apartments and Hotels.....	\$680,000	\$921,000	\$2,116,000	\$3,752,000
Association and Fraternal	40,000	15,000	80,000	265,000
Bank and Office	100,000	270,000	570,000	410,000
Churches	90,000	199,000	357,000	974,000
Dwellings	2,332,000	3,291,000	8,069,000	7,956,000
Stores	574,000	645,000	3,096,000	2,637,000
	\$3,816,000	\$5,341,000	\$14,288,000	\$15,994,000
Public Buildings				
City, County, Government and				
State	\$2,781,000	\$4,494,000	\$13,781,000	\$14,090,000
Schools	2,032,000	5,048,000	6,147,000	18,464,000
	\$4,813,000	\$9,542,000	\$19,928,000	\$32,554,000
Roads, Streets and Paving	\$11,586,000	\$7,644,000	\$40,262,000	\$36,563,000
Industrial and Engineering Projects				
Dredging	\$1,096,000	\$853,000	\$3,911,000	\$4,784,000
Filling Stations, Garages, etc....	100,000	486,000	625,000	1,028,000
Industrial Plants	7,154,000	11,112,000	20,948,000	57,915,000
Levees, Revetments, Dikes, etc...	127,000	239,000	4,375,000	5,368,000
Sewers, Drainage and Water-				
works	790,000	6,459,000	6,229,000	13,436,000
	\$9,267,000	\$19,149,000	\$36,088,000	\$82,531,000
Total	\$29,482,000	\$41,676,000	\$110,566,000	\$167,642,000



Drum Gates, they are called. This one 100' long by 20' high being fitted together in our Roanoke Plant before shipment to the Panama Canal Zone. Our order was for four of these gates each weighing about 350 tons.

Gates on Locks

Generally it's the other way. But there are gates and gates. Also different kinds of locks.

The Drum Gate above is 100 feet long and weighs 350 tons in place. You might say it is an enormous valve raising and lowering to control the flow of water from the new Madden Dam into the Panama Canal.

The Harvey Canal Lock Gates are of course the usual type of steel gates for canal locks but required, the same as the Drum Gates, the most careful work for exact alignment and watertight contacts. Our workmanship in both cases was complimented.

For nearly forty years we have been building steel structures, bridges, buildings, etc., of all kinds and sizes. We can assure you careful attention and handling on your steel requirements of whatever nature and size.

VIRGINIA BRIDGE & IRON CO.

Roanoke, Birmingham, Memphis, Atlanta, New York,
Los Angeles, Charlotte, Austin, El Paso

Plants at Roanoke—Birmingham—Memphis

VIRGINIA BRIDGE



Lock Gates for the Harvey, La., Canal of the New Intracoastal Waterway between New Orleans and Houston. Eight Gates in all, four 34' high by 43' wide and four 17' high by 43' wide.

(Continued from page 34)

Fla., Miami Beach—Henry Hohaus, 360 Meridian Ave., has plans in progress for \$100,000 hotel N. W. Cor. Euclid and Seventh Sts.; Richard Belsham, Engr., 2145 S. W. Eleventh St., Miami; 3½ stories; stucco; wood and conc. floors; wood sash; conc. found.; flat roof; Martha Washington Realty Corp., Mrs. Max Adams, 620 Lennox Ave.

Fla., Miami Beach—Isidore Evans, Miami Fla., and Hotel Evans, Loch Sheldrake, New York, has low bid from Riley Construction Co., 828 N. W. Third St., Miami, for hotel, 146 rooms, S. E. Cor. Tenth St. and Collins Ave.; Henry J. Moloney, Archt., 706 Professional Bldg., Miami.

Fla., Tallahassee—Treasury Dept., Procurement Division, Public Works Branch, Washington, D. C., has plans completed by Eric Kebbon, Archt., Treasury Dept., Washington, for proposed \$400,000 postoffice and Federal courthouse.

Ga., Decatur—Agnes Scott College, Dr. J. R. McCain, Pres., contemplates erecting library to cost \$200,000, and science hall to cost approx. \$100,000.

Ga., Glennville—W. F. Durrence, of Glennville Bank, erecting 3000 bale cotton warehouse.

Ga., Statesboro—Turpentine & Rosin Factors Co., Inc., Blum Bldg., Savannah, erect still for manufacture crude materials into a finished product; also erect 2 dwellings for white employees and large number of smaller cottages for laborers.

La., New Orleans—Weiss, Dreyfuss & Seifert, 600 Maison Blanche Bldg., New Orleans, Archt., has plans about completed for constructing new 14-story building for School of Medicine at Louisiana State University Medical Center at Charity Hospital, New Orleans. Opening date of bids has not been set.

Md., Baltimore—Federal Tin Co., Charles & Barre Sts., leased 6 story warehouse 6-8-10 E. Lee St. for expansion program; will convert into factory; install freight elevator and heating plant; expend \$30,000.

Md., Cambridge—City will have plans ready for bids soon for \$260,000 sewer system, pumping station and sewage treatment plant; Whitman, Requardt & Smith, Const. Engrs., S. W. Cor. Charles and Bidle Sts., Baltimore.

Md., Chestertown—Kent County School Comms., Chestertown, contemplate erecting 2-story brick school, approx. cost \$170,000.

Md., North East—Comms. of Town plan \$150,000 water supply, sanitary sewer system, storm drain and sewage treatment plant.

Miss., Hattiesburg—The Silks Building, Inc., will erect building under supervision of Oden & Glenn, for silk weaving plant; cost \$45,000; 1 story; 137x270 ft.; conc. found.; steam unit heat; asphalt built-up roof.

Mo., Trenton—Burns & McDonnell Engineering Co., 107 W. Linwood Blvd., Kansas City, preparing plans and specifications for light plant; project involves Diesel generation plant with approximately 1300 kw. capacity and distribution system covering entire system; est. cost \$325,000.

N. C., Asheville—Carl M. Bamford, V. P. and Gen. Mgr., Bamford-Publix Theatres, Inc., will build and operate motion picture theatre 7-9 Patton Ave.; cost \$75,000; 48x150 ft.; Henry I. Gaines, Archt., Public Service Bldg.

N. C., Beaufort—U. S. Engineer, Wilmington, N. C., has low bid of \$77,711 from Tidewater Construction Corp., Norfolk, Va., for constructing steel highway bridge at Core Creek, about 8 mi. northwest of Beaufort.

Tenn., Knoxville—Cherokee Oil Co., Claude S. Reeder, Pres., plans erecting 5 service stations at cost of \$100,000; first one to be at Henley and Cumberland Ave.; other four on main highways within city.

TEXAS—State Highway Dept., Austin, plans bridge over Red River at Sowell's Bluff, approx. cost \$160,000.

Tex., Austin—Austin Concrete Works, Inc., C. H. Page, Pres., contemplate installing machinery for making rein. conc. pipe to comply with specifications of state highway department for culverts and drainage structures.

Tex., Corpus Christi—Morris Stern, Majestic Bldg., San Antonio, erect \$70,000 cold storage plant Chaparral St.; will include dry and vapor system; John J. Runck, Corpus Christi representative.

Tex., Donna—Donna Irrigation Dist., Hidalgo County, No. 1, A. Tamm, Engr., Harlingen, receives bids soon for 2,250,000 sq. ft. conc. canal lining, 5 miles conc. pipe; loan and grant of \$1,250,000 approved.

Tex., Eagle Pass—Maverick County Water Control and Improvement Dist. No. 1, Thos. H. Caldwell, Mgr. and Project Engr., has loan and grant of \$225,180 approved for irrigation system improvements; approximately 50,000 sq. ft. conc. canal lining; Myers, Noyes & Nichols, Const. Engrs., Tower Petroleum Bldg., Dallas.

Tex., Edinburg—Hidalgo County Water Control and Improvement Dist., No. 1, H. W. Nutting, Mgr.-Engr., Edinburg, soon call for bids for 40-mile conc. canal lining, 2 mile conc. pipe; loan and grant of \$570,000 approved by PWA.

Tex., Liberty—City, F. S. Griffin, Mayor, plans \$125,000 power plant; J. H. Garrett of Garrett Engineering Co., 300 Hughes St., Houston, Engr.

Tex., Nacogdoches—Board of Regents, Stephen F. Austin, State Teachers College, A. W. Birdwell, Pres., probably open bids about April 10 for constructing boys dormitory, approx. cost \$123,000, 3-story, brick exterior walls, stone exterior trim, conc. foundation, gas heat, wood sash; W. E. Ketchum, 1615 S. Congress Ave., Austin, Archt.

Tex., Rio Grande City—Starr County Water Control and Improvement Dist., No. 1, S. B. Ricaby, Mgr. and Project Engr., has loan and grant of \$1,250,000 approved by PWA for installing irrigation system; Meyers, Noyes & Nichols, Tower Petroleum Bldg., Const. Engrs., Dallas.

Tex., San Angelo—Texas Woolen Mills Corp. (in process of organization), M. C. Cotton, 202-203 Burt Bldg., Dallas, plans constructing woolen mill at San Angelo; E. B. Boyd, 1806 Twentieth Ave., S., Nashville, Tenn., in charge of detailed engineering and technical work; later plan erecting other plants in Texas.

Tex., San Juan—Hidalgo County Water Control and Improvement Dist. No. 2, plans irrigation system improvements, including 1,870,000 sq. ft. conc. lining, conc. pipe from 12-in. to 60-in.; H. H. Kidder, Engr., San Juan; loan and grant of \$1,769,000 approved by PWA.

Tex., Terrell—City, L. A. Markham, City Mgr., will have plans ready for bids in June for installing sanitary sewer system and disposal plant, including 161,000 ft. sewer lines; \$236,000 bonds available; Powell & Powell, Engrs., Republic Bank Bldg., Dallas, Engrs.

Tex., Waco—Treasury Dept., Washington, D. C., has low bid of \$236,700 from T. P. Johnson and E. L. Martin, Dallas, for constructing post office; William MacDonald Construction Co., St. Louis, second low at \$252,213.

W. Va., Huntington—Owens-Illinois Glass Co., erect building and spur track; plans in tentative stage; W. R. Simonton, Plant Engr.

Ala., Montgomery—Col. H. B. Hackett, Director of Housing Div., Dept. of Interior, receives bids April 16, change of date, for constructing negro housing project; cost \$250,000; Moreland Griffith Smith, 1305 S. Perry, and Carl Cooper, Archts., Bell Bldg., both Montgomery.

Fla., Apalachicola—Treasury Dept., Procurement Division, Public Works Branch, Washington, opens bids April 15 for constructing post office, approx. cost \$55,000.

La., Alexandria—City, Comsn. Council receives bids April 23 for certain equipment, material and labor for improvement to municipal power plant; separate bids on following:

Boiler—two 500 h. p. with superheaters and accessories, including brick work, erected on customers found.

Desuperheater — and pressure reducing valve delivered f. o. b. Alexandria.

Piping—for steam, water, gas and oil, including valves, bends, fittings, furnished and installed.

Material—for converting 1500 indoor meters to outdoor meters.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, receives bids April 12 for removal of present wooden water tank pertaining to sprinkler system on Warehouse Unit No. 2 and replacing with 50,000 gal. steel water tank.

Missouri—U. S. Engr. Office, Capt. B. M. Harloe, Dist. Engr., St. Louis, receives bids April 11 for dam No. 26 Mississippi River, Missouri shore opposite Alton, Ill., 23 miles upstream from St. Louis, Mo.; consist of 30 tainter gates and 3 roller gates to operate between conc. piers; length of movable sections of dam 1724 ft.; on Missouri shore the conc. abutments will be connected with the embankment of Missouri and Illinois Bridge & Belt R. R. Co.

Mo., Cameron—Treasury Dept., Procurement Division, Public Works Branch, Washington, opens bids April 16 for constructing post office, approx. cost \$40,000.

Tex., Galveston—U. S. Engr. Office receives bids April 15 for furnishing material and labor for dredging 2,726,000 cu. yd. of material in maintenance of Galveston Channel.

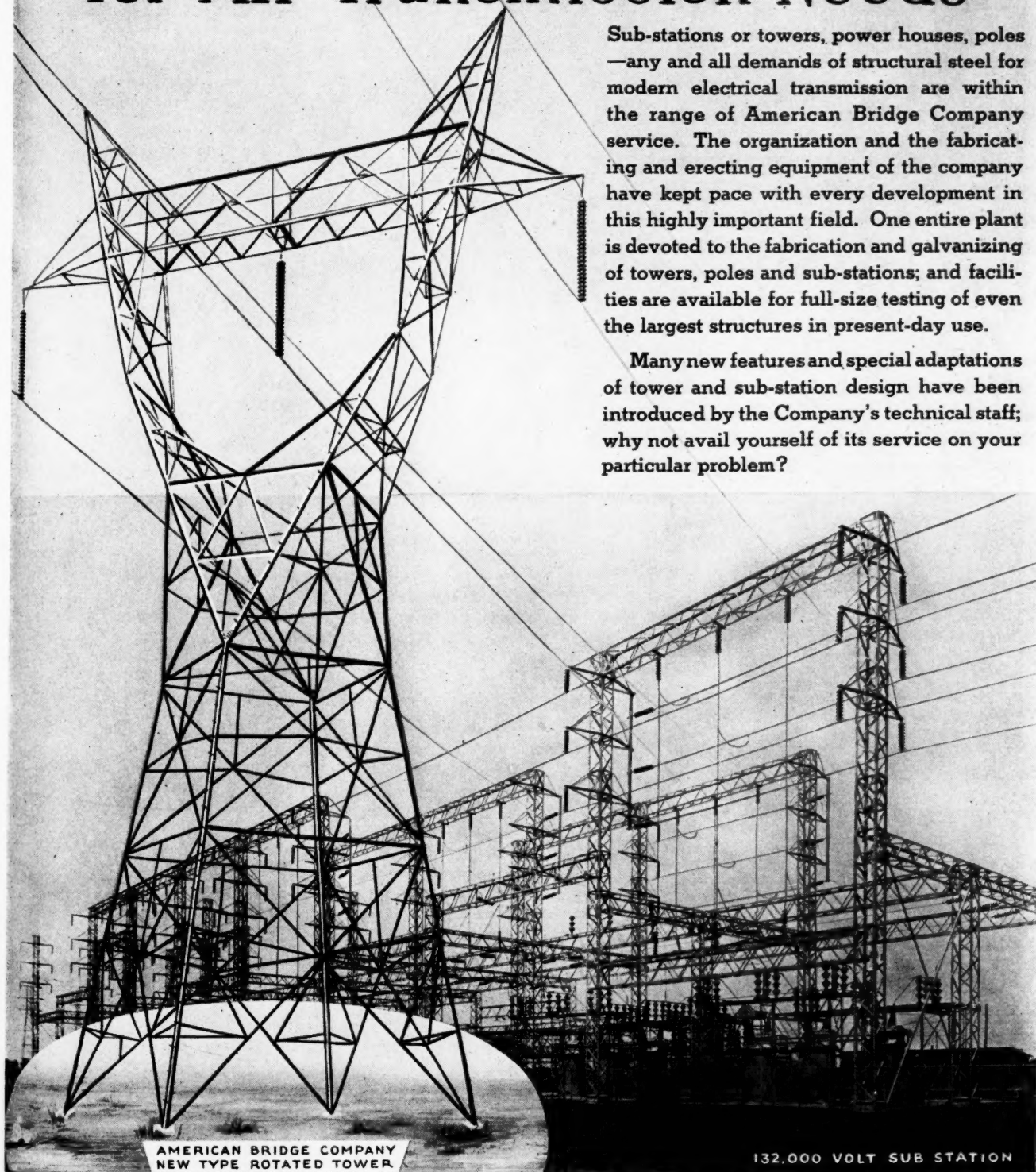
Tex., Denton—Texas State College for Women, W. M. Loveless, Bus. Mgr., opens bids April 16 for constructing Science Bldg. and Fine Arts Bldg.; Shirley Simons, Citizens Bank Bldg., Tyler, Archt. for Science Bldg.; Preston M. Geran, 417 Bewley Bldg., Fort Worth, Asso. Archt.; H. B. Thomson & Mark Lemmon, Tower Petroleum Bldg., Dallas, Archts. for Fine Arts Bldg.; Preston M. Geran, 417 Bewley Bldg., Fort Worth, Asso.

(Continued on page 38)

STEELWORK for All Transmission Needs

Sub-stations or towers, power houses, poles —any and all demands of structural steel for modern electrical transmission are within the range of American Bridge Company service. The organization and the fabricating and erecting equipment of the company have kept pace with every development in this highly important field. One entire plant is devoted to the fabrication and galvanizing of towers, poles and sub-stations; and facilities are available for full-size testing of even the largest structures in present-day use.

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United States Steel  *Corporation Subsidiary*

(Continued from page 36)

Tex., Fort Worth—Board of Education, Ed. P. Williams, Bus. Mgr., will probably open bids about May 1 for constructing Junior and Senior High School, approx. cost \$300,000, 3-story, 308x118 ft., brick exterior walls, cast stone exterior trim, wood, cement, asphalt tile floors, rein. conc. foundation, wood and metal sash, Spanish tile roofing; Wyatt C. Hedrick, Inc., 1005 First National Bank Bldg., Fort Worth.

W. Va., Montgomery—Treasury Dept., Procurement Division, Public Works Branch, Washington, opens bids April 10 for constructing post office, approx. cost \$50,700.

Contracts Awarded

ALABAMA—State Highway Dept., Montgomery, let contracts for projects in following counties:

Covington — Proj. NRM 128-A, 1.48 mi. single bit. surf. treat. on limerock base course, Florala toward Opp, Hardaway Construction Co., Columbus, Ga., \$42,224;

Henry—Proj. NRM 129-A, NRM 159, .432 mi. conc. paving in Abbeville, Vandigriff Truck & Crane Service Co., Atlanta, Ga., \$26,578. (Low bidders, 2-26)

Ala., Clanton—Treasury Dept., Washington, let contract to H. W. Beers, 70 Ellis St., N. E., Atlanta, Ga., at \$33,987 for constructing post office.

Ala., Mobile — Gulf, Mobile & Northern Railroad Co., T. T. Martin, Gen. Agt., placed orders recently with Tennessee Coal, Iron & Railroad Co., for 3218 tons of standard rail, for use in connection with 1935 rail progress on Louisiana Division between Bogalusa, La., and Jackson, Miss.; contemplate laying 22½ miles of new 90-lb. rail, together with new ballast, tires and other accessories, 45 miles of such improvements being completed south of Bogalusa in 1934; total budget \$212,000.

Ark., Dumas—G. C. McEachin Construction Co., Southern Bldg., Little Rock, Ark., has contract at \$31,964, for sewerage plant approximately 2 miles of 6 to 18-in. sewer pipe; Hugh R. Carter, Engr., 408-09 National Standard Bldg., Little Rock.

Ark., Hot Springs—Thomas J. Allen, Jr., Supt., Hot Springs National Park Service, Hot Springs, let contract to Perry McGlone Construction Co., City Bank Bldg., Kansas City, Mo., at \$184,293 for constructing 3.5 mi. West Mountain Roads; F. E. Winters, Engr., Board Public Roads, Hot Springs.

D. C., Washington—Treasury Dept., Washington, let contract to Carrier Engineering Corp., Tower Bldg., Washington, at \$53,637 for air conditioning Dept. of Agriculture Bldg.

Fla., Bushnell—Florida Moss Ginning Co., Inc., O. H. Wenzel, N. Main & Belt St., rebuilding burned plant, daily output of 15,000 lb.; erect warehouse, 40 x 70 ft., factory building 16 x 75 ft., storage warehouse 40 x 60 ft.; frame wood and iron roof and siding; cement floors; iron roof; cost \$10,000, equipment \$5,000; install hair pickers, tow crushers, dust system, electric motors, chair conveyors, etc.

Fla., Fort Pierce—Clark Dredging Co., 357 S. W. N. River Drive, Miami, has contract at \$115,400 for dredging intracoastal water way between Fort Pierce and Great Pocket, south end of Indian River.

Fla., Gainesville—State Board of Control let contract to O. P. Woodcock Co., Jacksonville, Fla., at \$24,700 for remodeling section of Thomas Hall, University of Florida.

Fla., Perry—Treasury Dept., Washington, let contract to Algernon Blair, Montgomery, Ala., at \$37,514 for constructing post office.

Ga., Atlanta — Kraft-Phenix Cheese Co., 890 Fair St., S. E., has permit for \$25,000 plant 266 Chester St., S. W.; 2-story; conc. found.; brick walls; struc. steel; comp. roof; plumbing; wiring and heating; day work with John Larsen, in charge.

Ga., Brunswick—J. M. Raymond Construction Co., Jacksonville, Fla., has contract at \$59,313 for Glynn County school improvements; Francis Abreu, Archt., Brunswick; F. J. Farris, Brunswick, Engr.

Ga., Elberton—Georgia Granite Corp., let contract to W. M. Smith Construction Co., 4601 First Ave., N., Birmingham, Ala., for granite shed, 620 ft. long, 54 ft. wide extend from Railroad St. to Tate St.; all steel.

Ga., Rome—A. S. Collins, 608 Red Rock Bldg., Atlanta, has contract for \$50,000 theatre Broad St. for J. Bailey Gordon; 2-story; brick; 132x55 ft.; Jas. C. Wise, Archt.

Ky., Louisville—J. F. Russell & Co., 3908 Frankfort Ave., has contract for erecting, work started, on distillery Cane Run Rd., for Glencoe Distillery Co., Inc., 723 S. 26th St.; will expend \$225,000 in erection of modern plant; D. X. Murphy & Bro., Louisville Trust Bldg., Archts. Engrs.; distillery proper will be of fireproof construction; install automatic sprinkler system in warehouses and other buildings; also install two 250 H.P. water tube boilers with Westinghouse underfeed stokers; dryer with capacity of 100 bu. per hr.; mashing done in open tubs; spur track 1,000 ft. long will be on the property.

La., Bogalusa—Bogalusa Paper Co., M. E. Cody, Gen. Mgr., erecting addition, 200x78 ft.; engineering under supervision of Bogalusa Paper Co.; H. J. Cowgill, Bogalusa, Gen. Contr.; New Orleans Corrugated Box Co., Lessee.

La., Winnfield—Treasury Dept., Washington, D. C., let contract to Algernon Blair, First National Bank Bldg., Montgomery, Ala., at \$35,416 for constructing post office.

La., Winnsboro—Franklin Parish School Board let contract without competition to L. A. Ellis, Monroe, La., at \$46,984 for constructing 2-story brick Central High School 9 mi. below Delhi, La., replacing one destroyed by fire; John W. Baker, Archt., Winnsboro, La.

Miss., Greenville — Washington County Highway Comsn., 318 Weinberg Bldg., Greenville, let contract to V. E. Schevenell Construction Co., 1280 Walker, Memphis, Tenn., at \$90,391 for gdg., drg. struc. and gravel surf. on Sect. No. PWC 1307-4, 15.1261 mi. of Swiftwater-Tribbett Road.

Mo., Springfield—Hedges-Weeks Co., Holland Bldg., has contract at \$35,000 for East Branch of Jordan Creek drainage improvement; Russell & Axon, Engr., 4903 Delmar, St. Louis.

N. C., Albemarle—Treasury Dept., Washington, D. C., let contract to Algernon Blair, Montgomery, Ala., at \$36,214 for constructing post office.

N. C., Greensboro—University of North Carolina, let contract to Charles W. Angle, Inc., Greensboro, at \$109,740 for constructing alumnae building; Wm. H. Deltrick, Archt., 102 W. Hargett, Raleigh, N. C.

N. C., Morganton—Treasury Dept., Washington, let contract to James I. Barnes Construction Co., Springfield, Ohio, at \$37,800 for constructing post office.

N. C., Wilmington—Brockwell Operating Co., Durham, S. B. Brockwell, Pres., soon start work on \$50,000 gasoline and oil terminal on Cape Fear River capacity 3,500,000 gal.; tract is about 3 acres, located between Queen and Wooster Sts., Surry St. and river; grading and construction of protection walls started; Chicago Bridge & Iron Works, has contract for 5 gasoline storage tanks; work to start on first tank March 1; terminal will include warehouse, 100x200 ft.; for petroleum package goods, with facilities for direct unloading from boat; minimum output 2,000,000 gal. monthly.

OKLAHOMA — State Highway Comsn., Oklahoma City, let contracts for projects in following counties:

Oklahoma—1.405 mi. widening and resurfacing West Twenty-third St., Classen Blvd. to Villa St., B. & M. Construction Corp., Oklahoma City, \$148,429.

Marshall—Bridge and underpass, southeast of Madill, R. S. Smith Construction Co., Norman, \$15,314.

Okl., Elk City—Treasury Dept., Washington, let contract to D. C. Bass & Son Construction Co., Enid, Okla., at \$38,770 for constructing post office.

S. C., Clearwater—Fiske-Carter Construction Co., Greenville, has contract for mill building for Clearwater Mfg. Co.

Tenn., Algood—Bush Building Co., 806 Eighth Ave., N., Nashville, has contract for water works system; \$38,000 available.

Tenn., Memphis—Buckeye Cotton Oil Co., let contract to F. V. Ragsdale, Derman Bldg., to erect 64,000 sq. ft. cotton linter warehouse at Binghampton plant, Jackson and Scott Sts.; cost \$75,000; 1-story; fireproof; conc. floors; install sprinkler system at cost of \$7500.

Tex., Abernathy — Panhandle Construction Co., Lubbock, has contract at \$25,307, for water works system; 1500 ft. of 8-in., 3500 ft. of 6-in. and 7000 ft. of 2-in. c. i. pipe; construct pumping plant, turbine type well pump, 200 g. p. m. pumping direct into overhead tank; H. N. Roberts, Engr., 2415 20 St., Lubbock.

Tex., Austin—State Highway Dept., John Wood, Chmn. Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contract to E. B. Snead, Austin, at \$71,300 for constructing Highway Dept. shop building; Adams & Adams, Insurance Bldg., San Antonio, Archts.; Matthews & Kenan, Smith-Young Tower, San Antonio, Engrs.; Harvey E. Dees, Gen. Res. Engr.

Tex., Henderson—Treasury Dept., Washington, let contract to Dolph-Bateson Construction Co., Construction Bldg., Dallas, at \$44,430 for constructing post office.

Tex., Houston — Harris County, H. L. Washburn, County Auditor, Houston, Tex., has let contracts for following projects: Holmes Road proj., Gulf Bitulithic Co., \$236,340; Tidwell Road proj., Brown & Root, \$41,372; Lyons Ave., Russ Mitchell, Inc., 3200 Blodgett, \$13,809; Eleventh St., Russ Mitchell, Inc., 3200 Blodgett, \$47,538.

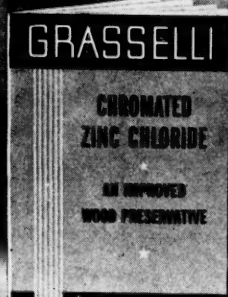
Tex., Houston—Southern Container Co., manufacturer of corrugated fiber boxes, 6000 Navigation Bldg., has permit for \$30,000 warehouse; steel and tile; J. B. Townsend, Contr.

Tex., Orange—Clark Brothers Construction Co., Baton Rouge, La., has contract at \$350,000 for excavating 2,664,000 cu. yd.; F. Shutte & Son, C. E., Orange.

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IRON, STEEL AND METAL MARKET

ALTHOUGH there was a moderate reduction in steel consumption as the second quarter opened, there are factors that warrant encouragement in the steel industry.

Unfavorable factors at the close of the first quarter include: Decline in operating rate to 45 to 46 per cent of capacity—about 10 points below the February peak—reduction in consumption by the automotive industry, and the unsettling influence of political developments.

Favorable factors include: Sustained demand from farm implement manufacturers; an increase in tin plate production and indications that requirements of consumers will continue to mount; improvement in structural steel demand and a steady, though slow improvement in buying by the nation's carriers.

Automobile Production Rate Exceeds 1,000,000 in Quarter

The automobile industry, said to have delivered to dealers in the first quarter of the year more than 1,000,000 cars and trucks, is placing orders for this quarter's requirements, which it is assumed, will be somewhat less than in the initial period of the year. However, this may be offset by a spurt in General Motors production, since the huge Baltimore assembling plant of Chevrolet—designed to turn out 80,000 units annually—will begin production shortly.

Substantial Unfilled Orders for Motor Cars and Trucks

Large blocks of unfilled orders are reported by Ford and Chevrolet and other makers since production for the industry, as a whole, so far this year has been unable to catch up with dealer demand, it may be that instead of leveling off the output will be stepped-up, and it is now believed that the makers will experience another 1,000,000-car quarter this period. Output in the first quarter of 1935 exceeds that for any three-month period since the second quarter of 1930.

Private Construction Gain Encouraging

While the construction industry's requirements have been light, initiation of the public works improvement program

under the \$4,800,000,000 appropriation may boost orders more promptly than is generally assumed, since plans and specifications for scores of projects have been completed, PWA approval has been granted and upon receipt of "work orders" the letting of contracts will be made speedily.

Meanwhile, there are indications that private investors are again turning to the construction field. This trend is particularly noteworthy in the South, where private construction is under way in volume and with better weather conditions in other sections of the country the movement may gain momentum.

Not since 1929 have apartment houses and hotels, bank and office buildings, churches, stores and like structures been undertaken in such a volume. Residential construction, which in the aggregate calls for a big tonnage of iron and steel for materials and equipment, is steadily increasing, reaching boom proportions in the Miami area and Washington, D. C.

Water Works and Sewer Projects Require Iron and Steel

Judging from the large number of "planned" water works and sewer improvement programs for municipalities throughout the nation, demand for pipe, fittings, castings and equipment is certain to increase with the allocation of PWA funds.

Recent rail purchase orders include 25,000 tons for the Chicago & Northwestern, 5,000 tons for the Chicago Great Western, 5,000 tons for the Atlantic Coast Line, 3,910 tons for the Gulf, Mobile & Northern, etc. Inquiries by other carriers are in sight.

Birmingham District Operations Above Nation's Average Rate

Steel operations in the Birmingham District exceed the average for the nation. Since operations of the Ensley mill of the Tennessee Coal Iron & Railroad Company, were resumed several weeks ago, bookings total more than 70,000 tons. A substantial tonnage is represented by the accessories, such as angle bars, tie plates, spikes and incidental materials related to the rail orders.

The Pullman-Standard Car Manufac-

turing Co. will build at its Bessemer (Ala.) plant 600 steel box cars for the Mexican National Railways, the order for which was placed last month. The Bessemer plant is completing 100 phosphate cars for the Seaboard Air Line Railroad. Having gotten into production in October the car building plant has been operating continuously. Steady operation until June is foreseen with the starting of work on the Mexican order.

Money Being Made Available For Financing Dwelling Construction

Buying of miscellaneous steel products is in substantial volume. Producers of household furniture and heating, plumbing and air-conditioning units, especially for residences are generally busy. The FHA plans for speeding building operations have dragged due to "red tape". Regulations are now being somewhat "relaxed." Building and loan associations, insurance companies and banks have their "ears to the ground", attempting to detect the stirring of a revival of dwelling construction, and indications are that they will market HOLC bonds and other low-rate of interest bearing securities to make conservative loans for new construction at normal mortgage rates—6 to 8 per cent.

Should Government financing plans bring out some of the surplus deposits now lying idle and available for private building there would be developed a wider demand for steel and other construction materials.

When money is available for such operations in quantity, it is safe to predict that residential construction will go forward with renewed vigor, this materially increasing demand for building materials of all kinds, and in particular iron and steel products.

More Employment

Employment in the steel industry rose to 420,000 in February—the highest number since July, 1934, when 424,000 were on the payrolls, the American Iron & Steel Institute reports. This compares with 407,000 employees in January and with 403,000 in February, 1934.

Average hourly wage rate paid by the industry in February was the highest since employment and payroll records have been collected by the Institute.

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APRIL NINETEEN THIRTY-FIVE

GOOD ROADS AND MOTOR TRANSPORT

Cotton Fabric in Road Construction

The use of cotton fabric in road construction will be demonstrated to Tri-State engineers, supervisors and road commissioners who will attend the National Cotton Show at Memphis, Tenn., May 6-11. Cotton fabric will be used as reinforcement material. Its purpose is to hold the road material in place and to prevent buckling and slipping under summer heat and the pressure of traffic. Will Fowler, city engineer of Memphis, and O. H. Miller, President of Choctaw Culvert Company, are members of the committee arranging for the demonstration.

Introduced by Charles H. Moorefield, State Highway Engineer of South Carolina, as a feature in bituminous surface treatment of sand, clay or topsoil roads, cotton fabric was successful in eliminating raveling. The use of an open weave cotton membrane along the edges reduced progressive failure and held broken pieces in place. Following experiments by the South Carolina Highway Department, Mr. Moorefield states that while the Department is not yet prepared to suggest the general use of cotton fabric as a reinforcing material in bituminous construction he is sufficiently impressed with favorable results as to extend its experimental use of this material. In this connection, the Department plans to try it during the current year on several sections where the base is demonstrably weak and where immediate results should be more conclusive than any yet ascertained.

Regarding results of the experiments, Mr. Moorefield writes the MANUFACTURERS RECORD: "My impression is that the results to date indicate some advantage for the cotton fabric, particularly where the earth type base material is not very stable. In some cases the lack of a stable base has resulted in the cracking of the bituminous surfacing where no reinforcing fabric was used, while in the case of the experimental sections where we have used the fabric no such cracking has occurred, although the base apparently is no more stable."

\$740,000,000 in Gasoline Taxes

Motor vehicle users paid more in gasoline taxes during 1934 than was paid in Federal tobacco, liquor, dividends and excess profits taxes combined, according to estimates of the American Petroleum Industries Committee. The total motor

fuel tax bill of the nation was \$740,000,000, including Federal taxes. State gasoline tax collections amounted to \$570,000,000 of which more than \$191,000,000 were paid by motor vehicle users in the South. This is a gain of \$52,000,000 over 1933 for the country and about \$21,000,000 in the Southern States.

Burdensome as this special levy on motor vehicle owners is, it would be less oppressive if revenue from it was used to improve highways but instead much of this money is being diverted. It is estimated that such diversion amounts to more than \$100,000,000 a year and if this money was used on roads, approximately 230,000 men would be given employment for six months and be of real benefit in unemployment relief.

Kentucky Maintains 7,271 Miles Roads

At the beginning of the current calendar year there was a total of 7,271 miles of road under maintenance by the Kentucky State Highway Department, according to Thomas Rhea, chairman of the State Highway Commission. During the calendar year of 1934, a total of 995 miles was completed, and work was begun on 638 miles that were not finished. Mileage completed in 1934 included 114 miles of reinforced concrete paving, 45 miles of rock asphalt, 11.8 miles of waterbound macadam, 91.6 miles of surface mix, 337 miles of traffic-bound macadam, 120 miles of gravel and 234 miles of grade and drainage construction.

Virginia Bars Solid Tire Trucks

Putting into effect a legislative enactment, the enforcement of which has been previously postponed, the Virginia State Highway Department recently announced that trucks with solid tires would be barred from Virginia roads beginning April 1. The ruling of the Department excepts municipal equipment and electrically propelled trucks.

Surfaced Roads

Florida has a higher percentage of surfaced roads than any other State except Ohio and Indiana. Percentages by States in the South are: Alabama, 29.2; Arkansas, 14.4; Florida, 57.4; Georgia, 14; Kentucky, 24.2; Louisiana, 45.8; Maryland, 45.3; Mississippi, 29.7; Missouri, 16.4; North Carolina, 36.3; Oklahoma, 5.8; South Carolina, 33; Tennessee, 27.3; Texas, 15.7; Virginia, 23.3; and West Virginia, 16.3.

Rising Protest Against Gasoline Tax Diversion

America's businessmen are leading the fight against those who would use the proceeds of the gasoline tax for purposes other than the building and maintenance of highways. This fact has been emphasized by the National Highways Users Conference, National Press Building, Washington, D. C. It asserts that organized farmers are standing as a unit to safeguard this road fund. Their allies are the spokesmen of industry and commerce and further support is given by the highway engineers and other technical experts who have joined in the warning against diversion. Millions of men represented in the organizations which have formally registered protests against the misuse of highway funds, realize not only the injustice but the folly of asking the motorist to pay those expenses of government that should be apportioned more generally.

Among organizations, which have taken a stand against diversion of gasoline taxes, are:

The United States Chamber of Commerce; Federal Oil Conservation Board; American Farm Bureau Federation; Joint Committee of Railroads and Highway Users; American Automobile Association; American Petroleum Institute; American Association of State Highway Officials; Illinois Commission on Future Road Program; The Highway and Building Congress; The Asphalt Institute; The National Grange; National Rural Letter Carriers' Association; National Automobile Chamber of Commerce; National Committee for Trade Recovery; American Road Builders' Association; Pennsylvania State Grange; Associated General Contractors of America; Farmers' Union; The Highway Taxpayers Association of New England; Ohio State Chamber of Commerce; Washington State Chamber of Commerce; Portland Cement Association; Connecticut Agricultural Tax Committee; Massachusetts State Grange; Northeastern Ohio County Commissioners' Association; Crisp County (Ga.) Board of Commissioners; Long Island (N. Y.) Chamber of Commerce; Oklahoma County Commissioners' Association; Highway Protective Committee San Francisco Motor Club; Highway Taxpayers' Association of Connecticut; Chicago Association of Commerce; Illinois Valley Manufacturers' Club; Illinois Society of Engineers; Chicago Building Trades Council; Illinois Construction Council; Illinois Agricultural Transportation Association; Indiana Farm Bureau; Indiana County Commissioners' Association; Indiana Highway Constructors, Inc.; Kansas Highway League; Massachusetts Farm Bureau Federation; Michigan State Association of Road Commissioners and Engineers; Minnesota Good Roads Association; Missouri Highway Engineers' Association; Nebraska Good Roads Association; Association of Highway Officials of North Atlantic States; New York Construction Council; New Jersey Association of Professional Engineers; North Carolina Truck Drivers' Association; Oklahoma Good Roads Association; Oklahoma Petroleum Marketers; Oklahoma Farmers Union; Ohio Grange; Ohio Good Roads Federation; Pennsylvania Construction Council; Keystone Automobile Club; Pittsburgh Chamber of Commerce; Tennessee Road Builders' Association; Texas Good Roads Association; Norfolk (Va.) Real Estate Board; West Virginia Municipal Conference; Associated Wisconsin Contractors.



By specifying concrete your road officials CONSERVE ROAD FUNDS

... and that's not a paradox, but the literal truth. For concrete actually *costs less* than other pavement of equal load bearing capacity. Its remarkable durability and low upkeep costs are the best possible insurance that future funds will buy more roads and not be wasted on the maintenance and reconstruction of temporary surfaces.

Don't forget maintenance! It must be considered when planning any

road—state, county, city or industrial service drive. And full consideration will lead you inevitably to concrete.

Concrete's smooth surface is non-skid—travel is swifter, yet safer. Its sharply defined edges and light color give it unmatched visibility at night. And concrete costs less to drive on—reduces gas, oil, tire and car repair bills.

PORTLAND CEMENT ASSOCIATION

ROOM 124, 33 W. GRAND AVE., CHICAGO, ILL.

I am interested in getting better highways at less cost. Please send me without obligation your booklet, "An Open Letter to Henry Ford."

NAME

ADDRESS

CITY STATE.....

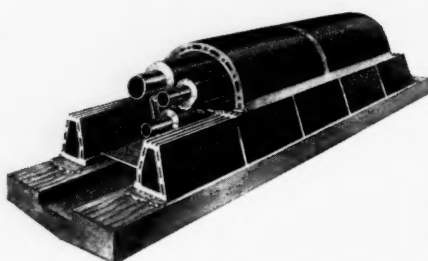
EQUIPMENT

NEW AND IMPROVED

Underground Steam Conduit System

Incorporating important structural and economic advantages, a new underground steam system designated "Therm-O-Tile" has been introduced by H. W. Porter & Co., Inc., Newark, N. J. Work of installation is materially simplified, and a more practical, more durable and more efficient conduit system produced.

On a concrete base 4 inches thick poured directly into the trench bottom, conduit and piping rest independently. There is no broken stone fill or under-drain, the concrete base keeping the trench free from water during installation and the pipe space dry with the lines in service, while it permanently



Cross Section Therm-O-Tile Conduit

supports the conduit and pipe lines and serves as a "sidewalk" for the convenience of the mechanics. A drain in the form of a channel in the center of the base is closed against anything but seepage or pipe leakage and cannot become clogged with tree roots, silt or vegetation.

Pipe lines are held by special cast iron adjustable supports, the arrangement preventing the possibility of strain on the joints of the conduit envelope while the lines are expanding and contracting in service. Tile sections are of double thickness with integral air spaces, a design that gives high strength with minimum weight and low thermal conductivity. Base sections, trapezoidal in shape, assure rigid support to the top arch and furnish air spaces which separate the heated space from the earth.

An important feature of the conduit is that it may be made leakproof and submerged under water where necessary. In its standard form it is waterproof under all normal soil conditions. Size and shape of Therm-O-Tile may be varied to meet any condition by choosing the best height of base section and the best diameter of tile envelope.

Light Structural Shapes in Truck Bodies

The Easton Car and Construction Company, of Easton, Pa., uses structural steel shapes in building heavy duty truck bodies. An important feature of the method used is the bending of structural shapes to conform to the wide "U" shaped cross-section called for in the company's new model GE body. Structural shapes are 4-inch stanchions, 10 pounds per foot, rolled by the Bethlehem Steel Company and classed as light sections.

For years the Easton company has specialized in the construction of truck and railroad car bodies for shovel loading operations. This type of service calls for a strongly built body to withstand strains of heavy loading and impact stresses due to the sudden dropping of large dipper loads. In recent years, there has been an increasing demand from contractors on earth and rock excavation work for bodies of light weight and strong construction. The new GE body is especially designed to meet this demand. It is being built in capacities ranging from 6 to 15 cubic yards (heap capacities), depending upon the type of operation, size of shovel, size of truck chassis, capacity of tires, etc. In the future it may be built in wider capacities.

Capacity-weight ratio of the new model is high, due to the elimination of side bracing members. Framework for trucks built at the Easton plant was formerly constructed of I beams chiefly, but the present selection of a lighter section has permitted a more economical design and closer spacing of members.

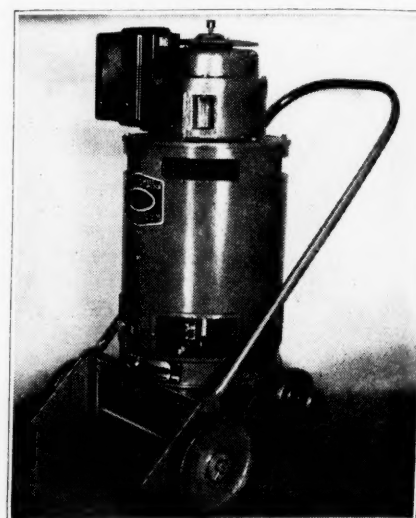
Model GE Hydraulic-Dump Steel Truck Body

Photo Courtesy Bethlehem Steel Co.



50-Ampere Vertical Welder

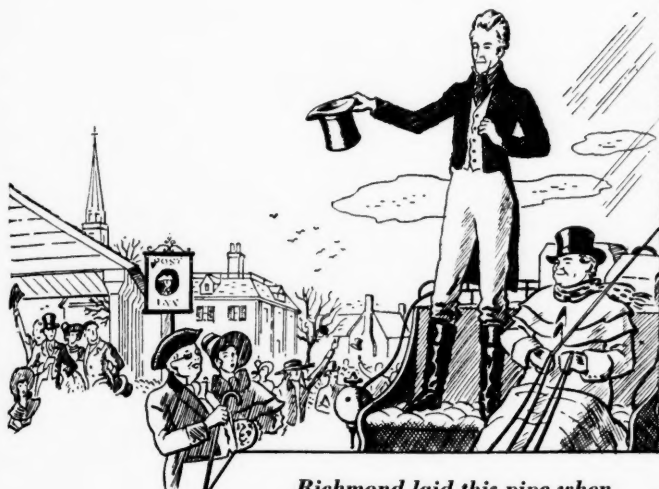
Harnischfeger Corporation, of Milwaukee, Wis., announces a new P & H-Hansen 50-Ampere Vertical Welder to meet the need of a low current arc welder capable of handling the lighter gauge metals used in auto bodies, etc. Known as the W50-254, this new welder presents as an outstanding feature an extremely stable high speed arc which enables it to weld quickly and efficiently down to



W50-254 P & H-Hansen 50-Ampere Welder

26 gauge steels. Self-stabilization of the arc is achieved through the use of an exclusive internal stabilizer winding, thus obviating the use of external reactors, resistors, or separate stabilizers. The new welder is 15 inches wide and 36 inches high, supplied with a base for stationary mounting, or with wheels or lifting bail for easy handling around the shop.

Still resists rust *after 105 years*



Richmond laid this pipe when
Andrew Jackson was President



AFTER 88 years of service in its original location, this cast iron main was taken up in 1918 to be replaced by a larger line of cast iron pipe, and relaid elsewhere. In 1931, after 101 years of service, it was again uncovered, inspected and photographed. Officials of the Department of Public Utilities of Richmond, Va., report that this old pipe is still rendering satisfactory service and good for many more years. It is another confirmation of the fact that the useful life of cast iron pipe with bell-and-spigot joints is more than a century.

The four major economies resulting from the long life of cast iron pipe are due to its effective resistance to rust. Cast iron is the one ferrous metal for water and gas mains, and for sewer construction, that will not disintegrate from rust. This characteristic makes cast iron pipe the most practicable for underground mains since rust will not destroy it.

The 4 Economies of Cast Iron Pipe

1. Official records of cast iron pipe laid 100 to 200 years ago and still in service, prove that it is *cheapest in the end*.
2. Official reports on file in the office of a prominent technical publication, prove that cast iron pipe is *cheapest to maintain*.
3. Long-lived pipe obviously causes less street-opening for replacements and repairs. Therefore, cast iron pipe *saves money on street-openings*.
4. When replaced by larger pipe, or a main is abandoned or rerouted, cast iron pipe *pays a final dividend in salvage value*.

For further information, address The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 1015 Peoples Gas Bldg., Chicago, Ill.

CAST IRON PIPE

METHODS OF EVALUATING BIDS NOW IN USE BY ENGINEERS



RATE THE USEFUL LIFE OF CAST IRON PIPE AT 100 YEARS

APRIL NINETEEN THIRTY-FIVE

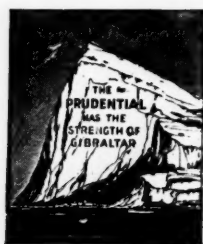
Only one of the hands

He held only a minor place at the plant. But at home he was the head; by his death a household has lost its only supporter.

GROUP INSURANCE

enables the employer to give due recognition to the importance of such a worker to his family.

*We invite inquiries
from Employers*



THE PRUDENTIAL
INSURANCE COMPANY OF AMERICA

EDWARD D. DUFFIELD, President
HOME OFFICE, NEWARK, N. J.

FINANCIAL NEWS

United States Money

On December 31, 1934, the total amount of money in the United States was given at \$14,306,813,806, including \$8,237,967,192 in gold, \$543,541,451 in standard silver dollars, \$211,619,975 in silver bullion, \$309,431,860 in subsidiary silver, \$130,508,154 in minor coin, \$346,681,016 in United States notes, \$3,520,365,570 in Federal Reserve notes, \$118,762,113 in Federal Reserve bank notes, and \$887,936,475 in National bank notes. Other kinds of money issued, but not included in the total since the gold or silver held as security against gold and silver certificates and Treasury notes of 1890 is included under gold, standard silver dollars, and silver bullion respectively, are \$5,273,806,270 in gold certificates, \$702,244,832 in silver certificates and \$1,184,924 in Treasury notes of 1890.

The total amount of money held in the United States Treasury was \$9,008,426,058 and the amount held outside of the Treasury was \$6,932,606,553. From the latter figure should be deducted \$930,789,049 in gold certificates and silver certificates and Treasury notes of 1890 before combining with total money held in the Treasury to arrive at the total amount of money in the United States. In the amount of money outside of the Treasury the Federal Reserve banks and agents held \$1,396,934,996, and \$5,535,671,557 was the amount reported in circulation which includes any paper currency held outside of the Continental United States. The money per capita in circulation on December 31, 1934, was \$43.66, on December 31, 1933 it was \$46.05, on October 31, 1920, it was \$53.21, on March 31, 1917 it was \$40.23 and on June 30, 1914 it was \$34.93.

New-Type Long Term Loans for Homeowner

As capital begins to swing back to mortgage investment, thorough-going new-type long-term loan plans for new home building begin to emerge. Great conservatism in loan terms and in appraisals for loans still prevail. Many communities still have no mortgage money. The public should know that the much discussed 20-year 80% loans, insured or otherwise, are as yet practically available in few communities. But where money supply begins to open, terms indicate a pronounced change from pre-depression home mortgage practice. First signs appear of a coming competition between various types of long-term payment plans advertising for the favor of the prospective home owner. Reduction in interest rates on non-delinquent mortgages to 5½, 5 and 4½% is reported by some institutions. So the National Association of Real Estate Boards finds in a current inquiry to members.

Financial Statements More Encouraging

There is encouragement in the progress being made toward betterment of the financial position of American business. The annual reports of various industries contain the cold record of profits and loss and for the most part show improvement in 1934 over 1933. The high lights of financial statements of some of America's outstanding organizations are given in the following:

Total value of business transacted by the United States Steel Corporation in 1934 amounted to \$591,609,000 as compared with \$524,968,000 in 1933. The total production of rolled and finished steel products during the year reached 6,004,000 tons, or 31 per cent of capacity as compared with 29 per cent in 1933. The net deficit of the corporation in 1934, before payment of dividends of 2 per cent on the preferred stock was \$21,667,000. This was an improvement of \$14,833,000 compared with 1933. The improvement in 1934

(Continued on page 48)

90TH ANNUAL STATEMENT

DECEMBER 31, 1934

NEW YORK LIFE INSURANCE COMPANY

A MUTUAL COMPANY FOUNDED IN 1845 INCORPORATED UNDER THE LAWS OF THE STATE OF NEW YORK

To the Policy-holders and the Public:—

On the occasion of the ninetieth annual report of the New York Life, it is fitting to review briefly its record of accomplishment since it began business on April 12, 1845.

Founded when this country was young and sparsely settled, the New York Life has forged steadily ahead, spreading the benefits of its protection over millions of people and contributing, through the investment of its funds, to the Nation's development. Having always been a mutual company, it has declared over one billion dollars in dividends payable to policy-holders. Since 1845 it has met every obligation through every panic, war and epidemic.

During the past year the Company paid or credited \$157,000,000 to living policy-holders, and \$70,000,000 to the beneficiaries of those who died.

The Company's assets were \$2,109,505,224 at the close of 1934, an increase of \$98,562,112 over the previous year. The gain in assets during the single year 1934 is greater than the total amount which the Company accumulated in assets during the first forty-four years of its history.

During the year 1934 our investments in Government, State and Municipal Bonds increased \$146,918,786. A decrease of \$17,000,000 in policy loans and an increase of over \$60,000,000 in new insurance issued during the year reflect the general improvement of business in 1934.

The following table shows the diversification of the Company's assets at the end of 1934. All bonds eligible for amortization are carried at their amortized value determined in accordance with the law of the State of New York. All other bonds, including bonds in default, and all guaranteed and preferred stocks, are carried at market value as of December 31, 1934.

	Assets Dec. 31, 1934	Per Cent of each item to Total Assets
Cash on Hand or in Bank	\$36,449,562.46	1.73
United States Government, direct, or fully guaranteed Bonds	208,726,056.38	9.89
State, County, Municipal Bonds	191,270,360.25	9.07
Public Utility Bonds	159,151,938.01	7.54
Industrial and Other Bonds	21,670,306.29	1.03
Railroad Bonds	341,910,539.57	16.21
Canadian Bonds	44,445,022.61	2.11
Foreign Bonds	2,067,183.26	.10
Preferred and Guaranteed Stocks	69,610,789.00	3.30
Real Estate (Including Home Office)	97,212,901.52	4.61
First Mortgages, City Properties	459,805,821.86	21.80
First Mortgages, Farms	12,527,521.11	.59
Policy Loans	396,467,101.27	18.79
Interest & Rents Due & Accrued	31,877,282.34	1.51
Other Assets	36,312,838.44	1.72
TOTAL ASSETS	\$2,109,505,224.37	100%

The liabilities of the Company, which include reserves to meet all contractual obligations, were \$1,994,134,579.

Included in liabilities, the Company has set up a Special Investment Reserve of \$28,000,000 not required by law, and reserves of \$45,734,207 for dividends payable to policy-holders in 1935.

Surplus funds reserved for general contingencies on December 31, 1934, amounted to \$115,370,645.

Total insurance in force, represented by 2,649,953 policies, was \$6,661,514,072. The total new paid for insurance in 1934 was \$440,000,000. In addition, men and women paid \$45,000,000 to the Company for annuities to provide a guaranteed life income.

April 12, 1935, marks the Ninetieth Anniversary of the New York Life. In view of its financial strength and its long record of fidelity in the fulfillment of its obligations, this mutual company continues to merit the confidence and patronage of its policy-holders and the public.

Thomas A. Buckner
President

A more complete report listing the securities owned by the Company, together with an illustrated booklet describing the Company's ninety years of service to policy-holders, will gladly be sent upon request. Write to the Company's Home Office at 51 Madison Avenue, New York, or to any of its Branch Offices throughout the United States and Canada.

BOARD OF DIRECTORS

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President, Yale University
New Haven, Conn.

NATHANIEL F. AYER
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Lowell, Mass.

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GEORGE B. CORTELYOU
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WILLIAM H. DANFORTH
Chairman of Board,
Ralston-Purina Co.,
St. Louis, Mo.

ROBERT E. DOWLING
President, City Investing Co.

JAMES G. HARBORD
Chairman of Board,
Radio Corporation of America

CHARLES D. HILLES
Resident Manager, New York State
Employers' Liability Assurance Corp.

HALE HOLDEN
Chairman of Southern Pacific Co.

HERBERT HOOVER
Former President of United States
Palo Alto, California
(Elected January 9, 1935)

ALBA B. JOHNSON
Philadelphia, Pa.
(Died January 8, 1935)

PERCY H. JOHNSTON
Chairman of Board,
Chemical Bank & Trust Co.

WILLARD V. KING
Retired

GERRISH H. MILLIKEN
President, Deering, Milliken & Co.

FRANK PRESBREY
Chairman of Board,
Frank Presbrey Co., Advertising

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State of New York

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President, R. H. Macy & Co., Inc.

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OUR ENGINEERS

are at the service of the Process, Coke Oven and Gas Industries, for the solution of production and equipment problems, in the fields of

Water Gas Manufacture	Fuel and Material Handling
Producer Gas Manufacture	Waste Heat Utilization
Coal By-Product Recovery and Equipment	Phenol, Ammonia, Benzol, Light Oil Recovery and Treatment.

Your inquiries are invited; no obligation.

SEMET-SOLVAY Engineering Corporation
40 Rector Street, New York, N. Y.

Business Is Going Ahead

As stated previously in this space, the demand for goods is piling up and the next movement of enterprise will be forward. This bank is prepared to cooperate with sound business in every proper way.

Can we be of service?

Baltimore Commercial Bank

GWYNN CROWTHER, President

BALTIMORE, MARYLAND

Member Federal Reserve System

Financial Statements More Encouraging

(Continued from page 46)

was due in part to an increase in the shipments of finished products of about 100,000 tons, reductions in cost arising from larger operations and the cumulative effect of changes in methods and practices instituted in recent years and a moderate average increase in selling prices. The Corporation paid \$35,780,000 in taxes in 1934.

Net income reported for 1934 by the Pittsburgh Plate Glass Co. was \$5,763,000 as compared with \$3,993,000 in 1933. An amount equivalent to 50 per cent of the net earnings was required to provide for taxes, employees insurance, pension and relief. Substantial increases in sales of the company's major products were made and the outlook is favorable for increased volume during the first half of 1935.

Sales of the Wheeling Steel Corporation in 1934 were \$48,924,000 as compared with \$44,874,000 in 1933 and \$31,022,000 in 1932. Capital expenditures for 1934, including the new cold rolling mill at Yorkville, amounted to \$4,221,000. Net profits for the year were \$529,000.

The International Harvester Company reports total sales of \$120,000,000 for 1934. It added 10,000 men to its payroll and reported a net profit of \$3,948,000, or \$4.83 a share on \$16,724 shares of preferred stock. The company lost \$1,886,000 in 1933 and \$7,582,000 in 1932.

On March 15 the Pennsylvania Railroad paid dividends of \$6,583,000, making the 88th consecutive year in which stockholders have received a return on their investment. More than \$2,000,000 went to over 104,000 women stockholders. The aggregate maintenance outlay of the year was \$96,600,000, or 8 per cent over 1933.

Substantial increases in sales and profits were made by the Caterpillar Tractor Co., Peoria, Ill., last year, and according to James C. Alban of the Alban Tractor Co., Baltimore, this record was sustained in the opening month of 1935. The company has made constant progress in improving its products and is now featuring "Caterpillar" Diesel power units.

The Electric Bond and Share Company's gross income for 1934 was \$13,952,000, a decrease of \$767,000, or 5.2 per cent as compared with 1933. No dividend has been paid on common stock since January, 1933. The net income for 1934 after the payment of full dividends on the preferred stock was equal to 21 cents per share on the common stock, as against 44 cents per share for 1933.

The General Electric Company reports orders received in 1934 amounted to \$184,000,000 compared with \$143,000,000 in 1933, an increase of 29 per cent. Net profits were \$17,151,000, equivalent to 59c per share, compared with \$10,855,000, or 38c per share in 1933. During 1934 General Electric pension payments were \$2,600,000.

Merchandising sales of the Westinghouse Electric and Manufacturing Company increased in 1934 about 70 per cent over those of 1933 and a further gain is expected for 1935.

Western Electric Company sales for 1934 amounted to \$91,807,000, an increase of 32 per cent over 1933 which was the first time in five years that a gain has been reported over the previous year's business. Operating at 20 per cent capacity, the company showed a loss of \$7,751,000 as compared with a loss of \$13,772,000 in 1933.

The Gulf Oil Corporation of Pennsylvania reported a net income of \$2,811,000, equivalent to 62 cents per share as compared with a net loss of \$11,386,000 in 1933.

Net income of Southern Pacific Lines for 1934 was \$408,000 compared with a net loss for 1933 of \$4,990,000. Expenditures by Southern Pacific Lines for additions and betterments amounted to \$6,708,000, an increase of \$2,413,000 compared with 1933. A new passenger station at Houston, Texas, was completed and opened September 1, 1934.

Sales of the Monsanto Chemical Co. in 1934 were 14 per cent greater than in 1933 and the largest in the company's history. Earnings for 1934 were \$2,771,000 or \$3.20½ a share on 864,000 shares outstanding. Earnings in 1933 amounted to \$2.57 a share.

The American Sugar Refining Company reported an income of \$6,656,000 representing \$3.56 for common stock against \$3.67 in 1933. Taxes totaled over \$2 per share of common. NRA and AAA regulations have raised the average cost of domestic sugar refining by some 13c per hundred pounds of output which has accentuated the domestic refiners' need for protection.



The Value of Public Utility POWER POLICY to Industry

Modern industry is one of constant change. A new-found equation in a research laboratory . . . and entire processes may be remade. Changes in process may change entire cost structures—bring commodities within reach of new millions of consumers.

Electricity is a basic tool in today's industrial structure—a vital element in industry's ability to readjust itself to changing conditions. Mass production, in which the application of electricity is a vital factor, gives typical evidence of the alliance between public utility service and the public benefits resulting from the products and the employment created by modern industry.

This alliance for public progress is held as a responsibility of public trust. Paralleling industry's changes are constant demands for changes in supplies of electricity; changes

in load factor; changes in technical requirements, and the making available of required services at the times and in the quantities needed by complex industries.

These are elements that bear on and are affected by the policy of the utility industry as administered under so-called "private management". Because of this vital relationship, both domestic and industrial, and because of efforts to destroy the fabric of these constructive and economically right policies, it is timely to weigh the public policies of *private management* in contrast to policies of *political management*.

Much is heard these days of "new policies". There can be but one policy in this field of exact science. It must be a policy that industries can tie to with certainty that their production and their workers will not be put at the

mercy of the shifting winds of political fancy. The services of light, heat and power are too vital to be hazarded by continual changes in plans, over-turns of administration, costly experiments of theorists, reversals of authority by political super-management, and all the other confusion that steals from the energies of its personnel and blinds the service to what is now its primary consideration: the public welfare and customer satisfaction.

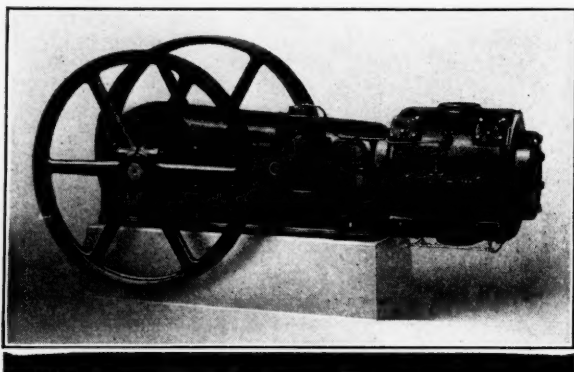
As one of the leaders in industrial co-operation, the Commonwealth & Southern group of companies has maintained a policy which seeks to multiply the earning power of the people by the natural process of creating wealth through the stimulation of business progress built on sound, profitable industrial activity.

THE COMMONWEALTH & SOUTHERN CORPORATION



TYPE T HORIZONTAL SINGLE-STAGE AIR COMPRESSOR

Double-acting; water-cooled; arranged for belt and direct-connected motor drive; for permanent and semi-permanent installation; capacities from 89 to 1293 cu. ft. per min.



A PROMISE . . . FULFILLED

New . . . modern . . . smoothly "streamlined" . . . Type T Compressor gives outward promise of the high efficiencies within . . . a promise that is generously fulfilled by such salient features as:

- SIMPLATE VALVES
- LARGE, SMOOTH AIR PASSAGES
- CYLINDER AND HEADS LIBERALLY WATER-JACKETED
- TAPERED ROLLER MAIN BEARINGS
- CYLINDER, CROSSHEAD FACES AND CROSSHEAD GUIDES GROUND TO SIZE
- WEDGE-ADJUSTABLE CONNECTING ROD
- INLET VALVE UNLOADING SYSTEM
- DOUBLE-COUNTERWEIGHTED CRANK-SHAFT
- COMPLETELY ENCLOSED FRAME WITH OIL-TIGHT AND DUST-PROOF COVERS

How and why these and other features of the Type T Air Compressor contribute to its high operating efficiency, its long life and its low maintenance cost, are fully described and illustrated in Bulletin No. 728. Send for your copy . . . today.

CHICAGO PNEUMATIC TOOL CO.
6 EAST 44th STREET NEW YORK, N. Y.

Manufacturers of



**AIR & GAS COMPRESSORS
ROCK DRILLS
DIESEL ENGINES
ELECTRIC TOOLS
PNEUMATIC TOOLS
VACUUM PUMPS & CONDENSERS**

ARE YOU AWARE THAT

ELECTRIC APPLIANCE SALES by the Commonwealth and Southern Corporation more than doubled in 1934. Unit sales included 33,505 refrigerators, 13,188 ranges, 5433 water heaters, 9102 washers, 1946 ironers, and 6293 vacuum cleaners representing current consumption increase for 1935 of about 59,000,000 kilowatt hours.

BY-PRODUCT COKE PLANT capacity, by types of ovens, in the South includes 1501 Koppers, 552 Semet-Solvay, 106 Wilputte, and 8 Piette ovens. There are 16 by-product coke plants with a total of 2167 ovens.

TEXAS has produced 3,900,000,000 barrels of petroleum valued at approximately \$4,000,000,000, or more than 22 per cent of the country's total output of 17,600,000,000 barrels since oil was discovered in Pennsylvania many years ago.

HOUSE RENTAL of the Government's so-called slum clearance projects is to average \$7.50 per room per month. A rent survey of 61 cities shows that the average paid per room per month is only \$4.80, or 36 per cent less than the Government's "low cost" apartments for occupancy by low income groups.

FARM ELECTRIFICATION increased 508 per cent in the South since 1924. Of the 3,469,839 farms (55 per cent of the country's total number) in the South, 124,354 farms had electric service January 1, 1935 as compared with 20,454 January 1, 1924. As less than 4 per cent of Southern farms are electrified, there is a vast market to be developed as agricultural conditions continue to improve.

PRODUCTION has increased 54 per cent, payrolls 21 per cent, wage restorations 18 per cent, re-employment 28 per cent and volume of business 36 per cent since the low point reached in 1932.

COAL OPERATORS in Southern West Virginia, Southwestern Virginia, Eastern Kentucky and Eastern Tennessee spend over \$100,000,000 annually, 68 per cent being paid in wages to mine labor, 34 per cent expended for purchases of mine and commissary supplies, and 3 per cent for Federal, State and local taxes. Part of the \$3,000,000 collected in taxes from coal mine operations is used by the Government in developing hydro-electric power to directly compete with coal.

PULPWOOD SUPPLY in South Carolina Survey Unit No. 1 embracing 5,186,000 acres in 12 Southeastern counties amounted to 28,169,000 cords. Of the total pulping species 17,451,000 cords are pine and 10,718,000 cords are gum, maple, bay, magnolia, etc. The total, including nonpulping species is 34,604,000 cords.

MORE THAN 750,000 STORES are said to be in need of repairs and modernization, indicating a \$2,000,000,000 market exists in this field of construction. The Federal Housing Administration is sponsoring a movement whereby merchants can borrow money on a five-year payment plan for improvements of this character.

NEW LIFE INSURANCE written this year is about 17 per cent above the amount for the corresponding period of 1934. Total new business for January and February amounted to \$1,544,501,000 as compared with \$1,313,530,000 in 1934 and \$1,224,156,000 in 1933.

AIR CONDITIONING IN SOUTH

REALIZATION that installation of air conditioning facilities places an establishment so equipped in a preferential position is steadily gaining the recognition of a larger and more varied group in the business and commercial world. Home owners are also showing a more favorable consideration of this atmospheric regulatory apparatus as a necessary adjunct to the comfort of the modern home.

These conclusions are reached after surveying the activity in the air conditioning field in six cities located in the territory from the Potomac to the Rio Grande. Total results of figures for these localities, which are Atlanta, St. Louis, Houston, Dallas, Washington and Louisville, show that during 1934 the number of installations in hotel, residential, office and restaurant buildings at least represented twice the figures for the year of 1933.

Installations in restaurants, in fact, leaped ahead during 1934 to almost three times the total for the preceding year, while the number of equipments placed in residences, offices and banks, and in hotels was practically double the figure for 1933. Beauty parlors and barber shops, hospitals and radio stations for the first time in several of these cities took up the comparatively newly used idea. Theatres and stores, which were among the first of businesses to see in air conditioning a way for bringing in revenue in the slack warmer seasons, also were represented in substantial percentages. A decided jump in the use of air conditioning in the smaller establishments was outstanding.

More than 600,000 tons of steel have been used, according to the American Iron & Steel Institute, for air conditioning equipment. Future consumption for this purpose is estimated in large figures. This prediction is supported by the trends indicated by the 1935 developments in several of the cities.

Installations scheduled this year at Dallas more than equal those made in 1934. Twice as many installations are expected in Houston during the present year as in 1934, the outlay being placed at around \$650,000. Beauty shops, cafes, retail stores, office buildings and theatres are all included in the prospective installations in the latter city,

with the greatest number being apportioned to the three first named, although the highest horsepower requirements will be for the offices and theatres.

St. Louis installations in 1934, which led the cities under discussion, totaled 150 and represented 1367 horsepower, or an increase of more than 87 per cent in numbers and 47 per cent in capacity over the 80 installations made in 1933 with a capacity of 693 horsepower. Equipment placed in Washington during 1934 numbered 61 units with a capacity of 1646 horsepower, exclusive of the 22 installations with a 14,222-horsepower capacity made for the Federal and District of Columbia governments. Increases in this city over 1933 operations were 65 per cent in number and 233 per cent in capacity.

In Atlanta the installations during 1934 numbered 46 with a 441-horsepower capacity, increases of 253 and 716 per cent, respectively, over 1933, when 13 units were installed with a 54-horsepower capacity. The 34 new installations in Dallas during 1934 were twice the number made in 1933, while the newly installed capacity of 382-horsepower was a 178 per cent rise. Houston units newly installed in 1934 were two below the total for Dallas. However, horsepower totaled 662. These figures represented an increase of 190 per cent in number and a decrease of 16 per cent in horsepower. Louisville installations aggregated 15 with a 318-horsepower capacity, increases of 33 and 22 per cent, respectively, over 1933 figures of 11 units with a 261-horsepower capacity.

Prior to 1934 in Miami, Fla., there were four installations with most of the 475 horsepower operating in theatres. In 1934, the 20 installations in many different types of buildings totaled 299 horsepower.

Comparative figures for types of installations in 1933 and 1934 were not available for several cities. Kansas City in 1934 saw 150 units installed with a capacity of 1929 horsepower. Baltimore installations, numbering 74 in 1934, were more than the total for all years previous to that period. The horsepower capacity for the year was 1973, against 3626 for all installations up to 1934. Memphis installations numbered 22 with a capacity of 207 horsepower. Thirteen installations were made in Jacksonville, Fla., with a capacity of 62 horsepower. Richmond's apparatus installed totaled 25 units with a 1267-horsepower ca-

capacity. The 23 installations in Chattanooga had a capacity of 100 horsepower, compared with four installations in 1933 with a capacity of 24 horsepower.

It is interesting to note, after reviewing the increase in installations made during 1934 over those of 1933, that although the 1933 activity as far as numbers were concerned ran 10 per cent below the total number of installations made for all years previous to that time, the horsepower installed in 1933 was but one-seventh of the capacity installed previous to that time. This great difference in capacity is due to the theatre, department store and office building installations, which were of a large size and which were among the first installations.

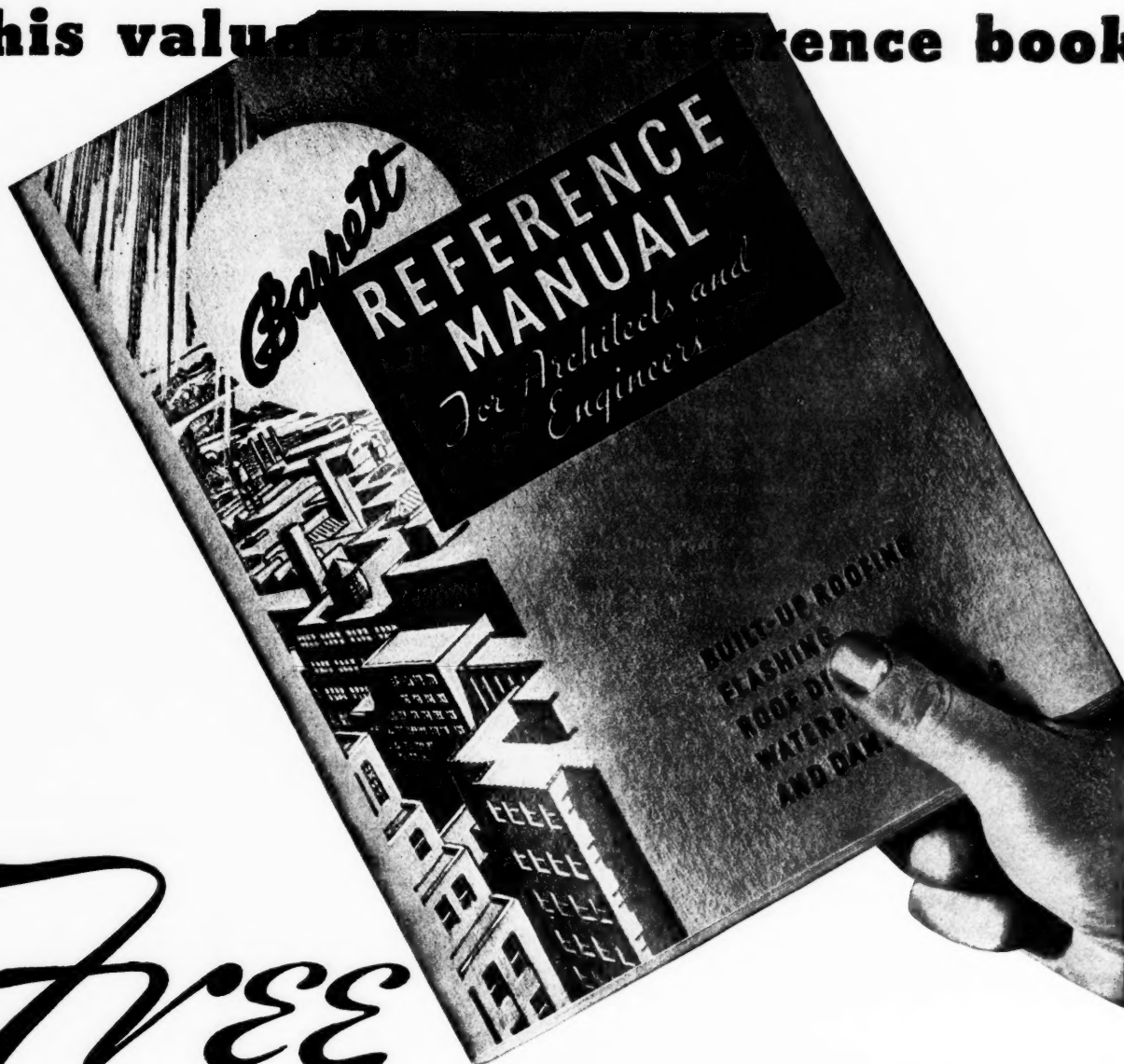
One of the notable air conditioning installations in the South recently is that being made in the Whitney National Bank building, New Orleans, a 14-story structure with between three and four million cubic feet of space to be conditioned. Two Carrier units with a combined capacity of 700 tons are being installed, conditioned air to be furnished through two dehumidifiers, one for the office spaces and another for the banking quarters. Connected horsepower of motors involved totals 1500. Taylor Fulscope regulators and operating dampers installed at booster fans on each floor make up the temperature control apparatus. Foster-Wheeler cooling tower is being installed. Leo S. Weil & Walter B. Moses are the consulting engineers.

The 14-ton Frick Freon unit installed in the Union Memorial Hospital, at Baltimore, is typical of a hospital unit. Minneapolis-Honeywell temperature control apparatus is used on this installation, which furnishes conditioned air to the operating rooms. Controlled humidity and temperature reduces the hazard of perspiration while operations are being performed, according to Dr. Clyde Frost, director of the hospital. Installation was made by Paul J. Vincent Co.

At Columbia, S. C., a \$90,000 system is being installed in the Federal Land Bank building now under construction. Ten cubic feet of air per minute for each of the estimated 1200 occupants of this building will be furnished by the Carrier units being installed, with Johnson controls and Buffalo Forge fans. Lafaye & Lafaye are the architects; James Posey, Baltimore, the consulting engineer, and W. B. Guimarin & Co., the contractor for this system.

Two major buildings in Texas—that of the Humble Oil and Refining Co., at Houston, and the Gulf States Securities Life Insurance building at Dallas—are to benefit by air conditioning equipment.

This valuable reference book



is Free

to men interested in factory and building maintenance

For the convenience of architects, engineers and men concerned with building maintenance, The Barrett Company has collected its famous roofing, waterproofing and dampproofing specifications in a 70-page Reference Manual. This book is included in the 1935 Sweet's Architectural and Engineering Catalogs, and a limited supply of individual copies is available for men who do not receive Sweet's.

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Modern CHEMICAL Developments

XV

17. INCREASES LACQUER ADHESION

Hercolyn is a pale colored liquid resin that is compatible with nitrocellulose and soluble in all lacquer solvents or diluents. It is recommended as a combined resin and plasticizer in nitrocellulose lacquers. Small amounts in nitrocellulose lacquer greatly improve adhesion to metal surfaces.

18. PROTECTS STEEL PLANTS

Paint that is properly formulated with Tonesit, the new chlorinated rubber material, offers the ideal protection for steel plants, because of its high resistance to fumes, gas, smoke, soot, steam, and moisture.

19. FOR POWDER SCRUBBING SOAPS

Powder scrubbing soaps containing Yarmor Steam-distilled Pine Oil are powerful solvents, detergents, and deodorizers. They readily clean garage floors and other oily surfaces without leaving a slippery film.

20. STIFFENER FOR TEXTILES

Fabrics of all kinds can be stiffened and made waterproof with nitrocellulose lacquers. Textiles used in hats and various garments may be sized or stiffened advantageously with this material.

21. OIL-PROOF PACKAGES

Cardboard containers for hardware, tools, and other metal products that are greased before packing to prevent rust, are often discolored and made unsightly by the grease penetrating to the outside. Coating with nitrocellulose lacquer prevents this grease penetration.

22. CHEMICALLY CONTROLLED ROSINS

Hercules I, K, M, and N Wood Rosins are used extensively in the paint and varnish industry. They are clean, uniform, and brilliant in color because they are manufactured under strict chemical control.

23. VARNISH ROSINS THAT BLEACH

At temperatures normally employed in varnish manufacture, Hercules Pale Wood Rosins bleach. Grade I bleaches to the equivalent of N to WG; Grade M to the equivalent of WW or lighter; and Grade N to the equivalent of X or lighter. Besides the economy of this feature, these rosins have the advantage of cleanliness and uniformity.

More detailed information on any of the above subjects may be secured by filling in this coupon.



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IN-25-M

INDUSTRIAL NEWS

Gulf States Steel Sales Promotion

Created to cooperate with and assist the present sales organization of the Gulf States Steel Company, of Birmingham, Ala., a sales promotion department, to be headed by F. W. Frawley, manager, and N. G. Bradford, assistant manager, has been announced by L. E. Geohegan, vice president and general manager of the company. The new department, with offices in the Brown-Marx Building, Birmingham, became effective March 15. Until recently Mr. Frawley was assistant general manager of sales of Tennessee Coal, Iron and Railroad Company and Mr. Bradford was his first assistant. Both are well known to steel buyers and distributors in the South.

Diesel Electric Locomotive Plant

Plans have been made by the Austin Company, constructing engineers of Cleveland, Ohio, for the construction of a Diesel electric locomotive plant at McCook, Ill., in the Chicago industrial district, for the Electro-Motive Corporation, a General Motors Corporation subsidiary. This will be the first complete factory for the exclusive manufacture of Diesel electric locomotives in the country, and will include nine buildings of steel, concrete, brick and glass. The main shop, 550x170 feet will be served by one 200-ton and two 30-ton traveling cranes. Locomotives will be powered with Winton Diesel engines manufactured in Cleveland by Winton Engine Company, another General Motors subsidiary.

Reading Iron Company Appointments

S. H. Blackwood, formerly assistant district sales representative in the New York territory of the Reading Iron Company, Philadelphia, Pa., has been made district sales representative in Southern territory with headquarters at 1104 Continental Building, Baltimore.

"Caterpillar" Orchard Tractors

Orchard models of the "Caterpillar" Twenty-Two Tractor are announced by the Caterpillar Tractor Company, of Peoria, Illinois, manufacturers. They embody many features that fit them for a wide variety of orchard work. Track gauge may be either 40 or 50 inches and gasoline and tractor fuel models may be had.

LaCrosse Heavy Duty Trailer

The C. R. Jahn Company, 760 Polk Street, Chicago, general distributors for the LaCrosse Tu-Way Trailer manufactured by LaCrosse Boiler Company, of LaCrosse, Wisconsin, announce a new heavy duty model of the conventional "goose neck" type incorporating advanced features of design and construction. Either pneumatic or solid tires may be had and braking is provided on all four wheels—mechanically, vacuum or air controlled. When mounted on pneumatic tires, the new heavy duty small diameter tire developed by Goodyear Tire and Rubber Company is used.

Anchor Bolt

An anchor bolt featuring a "wing" device on the ball and socket joint principle has been invented by J. Roy Gattis, Milledgeville, Ga. The stud can be lengthened to any requirement and three sizes of the bolt can accommodate six different size studs. Larger bolts can be made to specifications.

Parks-Cramer Air-Condition Model

An operating textile mill model fully and automatically air-conditioned and humidified will be exhibited at the Southern Textile Exposition at Greenville, S. C., April 8 to 13, by Parks-Cramer Company, of Fitchburg, Mass., and Charlotte, N. C. In addition, recent developments in the domestic air conditioning field will be displayed.

Pulaski Foundry Sale

Receiver's sale of the Pulaski Foundry & Manufacturing Corporation, Pulaski, Va., will be held April 24. The plant consists of 5½ acres improved with modern buildings, complete equipment and railroad sidings. Information regarding the sale can be obtained from J. L. Wysor, receiver, Pulaski, Va.

Barrett Reference Manual.—For the convenience of architects, engineers and those concerned with building maintenance, The Barrett Company, of New York City, has collected its well known roofing, waterproofing and dampproofing specifications in a 70-page reference manual, which is now available.

"Flex-Set" Preformed Yellow Strand Wire

Rope.—Broderick and Bascom Rope Company, St. Louis, Mo., has issued a new 20-page booklet describing in detail the construction of "Flex-Set" Preformed Yellow Strand Wire Rope and illustrating some of its applications. The company has branches in New York, Seattle, Portland and Houston, and factories in St. Louis and Seattle.

Hoffman Vacuum Cleaning Equipment.

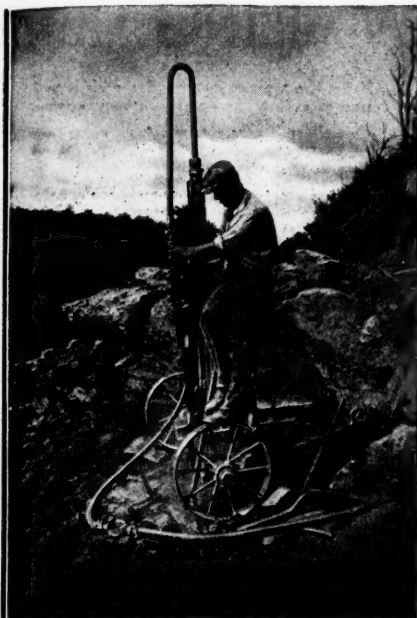
— U. S. Hoffman Machinery Corporation, New York City, is distributing a 16-page booklet illustrating and describing Hoffman heavy duty industrial vacuum cleaning systems, designed to overcome hazardous dust conditions in various manufacturing operations, foundries, ceramic plants, woodworking, textile mills, grain mills and elevators.

Grasselli Chemicals.—The Grasselli Chemical Company, Inc., of Cleveland, Ohio, has issued a new CHEMICALS booklet presenting the products manufactured by the company with a list of the company's works and distributing stations. This edition contains a number of new products added to the company's 1934 line of chemicals.

Jeffrey Bucket Elevators.—The Jeffrey Manufacturing Company, Columbus, Ohio, has issued a new Bucket Elevator Catalog No. 565, of 112 pages, covering a broad field of elevator requirements, including an increased number of vertical space type Centrifugal Discharge elevators with buckets mounted on chain and belt, and a line of heavy duty Continuous Bucket elevators in casings.

Motorized Speed Reducers.—Link-Belt Company, Philadelphia, Chicago and San Francisco is distributing 20-page illustrated catalog No. 1515, devoted to a newly developed line of motorized speed reducers, in which the motor is mounted directly on the side of the reducer housing, thus making a shaft coupling or motor base plate unnecessary.

(Continued on page 56)



WORTHINGTON ROCK MASTER SPEEDS UP DRILLING

... at any angle ... on every type of job

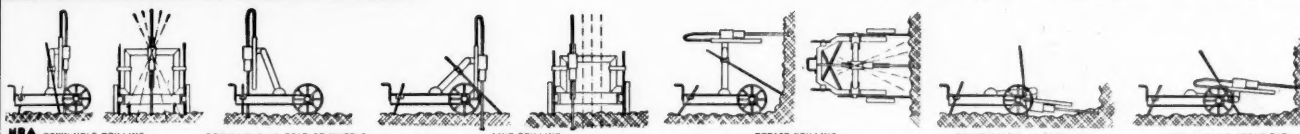
ALIGHT, mobile rig ... can be readily moved from place to place ... and taken on any job where you can take a hand drill.

The U-bar, adjustable to any position, in combination with the universal drill seat, assures the desired set-up. Peg legs, adjustable in length and position, assure rigidity.

Equipped with quick and effective Hole Spotter, the rig can be furnished with feeds for 3 ft., 4 ft., or 6 ft., maximum steel change ... Recommended for holes up to 20 ft. depth.

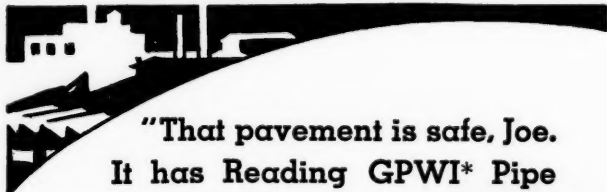
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● **Ask for a demonstration**



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It has Reading GPWI* Pipe
under it. Vibration
can't hurt it."

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Puddled Wrought Iron

For advice in
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spots, write

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SCIENCE AND INVENTION HAVE NEVER FOUND A SATISFACTORY SUBSTITUTE FOR GENUINE PUDDLED WROUGHT IRON

Rip Van Winkle slept for 20 years

BUT YOUR WATCHMAN CAN'T SLEEP 1 HOUR

In one hour of lost vigilance your properties can be menaced by thieves, vandals or firebugs.

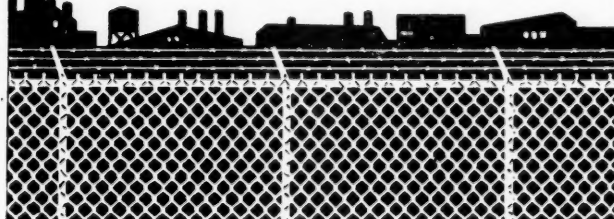
Are you neglectful of caution because of the cost of protection?

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Write for a Stewart representative ... he'll show you in black and white the savings afforded by Stewart Fence.

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FENCES

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109 Stewart Block, Cincinnati, O.



INDUSTRIAL NEWS

(Continued from page 54)

"World's Largest Plate Mill."—The foregoing is the title of a booklet issued by Lukens Steel Company, Coatesville, Pa., producers of plate, sheets and flanges, presenting a pictorial summary of the work of this company and its divisions—By-Products Steel Corporation and Lukenweld, Inc. A new Cincinnati All-Steel Press Brake, said to be the largest of its type ever built for forming and multiple punching light and heavy steel plate, has been installed by the Lukens Steel Company and described in a separate bulletin.

Simplex Jacks.—Templeton, Kenly & Co., Ltd., 1020 South Central Avenue, Chicago, Ill., has issued a new miniature catalog, Form No. 235, illustrating and describing Simplex screw and lever jacks, and Simplex trench and timber braces used extensively by railroads, industries and utilities.

Calyx Core Drills.—Ingersoll-Rand Company, New York City, is distributing a 48-page bulletin (Form 9501) illustrating and describing the Calyx Core Drill which may be used for drilling holes up to 72 inches in diameter and 50 feet deep, and the cores removed for study. Smaller holes (with their cores) up to 11½ inches in diameter and as deep as 2500 feet, can be produced.

Refractory Insulating Brick.—The Chas. Taylor Sons Company, of Cincinnati, Ohio, manufacturers of fire brick, etc., have issued a new booklet describing TAYLOR Refractory Insulating Brick. It contains complete engineering data, comparative tests, and performance reports on this brick, which is recommended for use at temperatures up to 2500 degrees Fahrenheit when uncoated and up to 2600 degrees Fahrenheit when coated with the company's P. B. SILLIMANITE Air-Setting Cement.

By the Insurance Department
CONDENSED STATEMENT
SHOWING THE CONDITION OF THE

Fidelity & Guaranty Fire Corp. Baltimore, Md.

DECEMBER 31, 1934

Total income during the year	\$3,278,132.42
Total disbursements during the year	2,895,195.12
Total admitted assets	4,921,029.42
Total liabilities except capital	2,885,441.23
Capital, actually paid in cash	\$1,000,000.00
Surplus over all liabilities	1,035,588.19
Surplus as to policy holders	2,035,588.19
Total liabilities	4,921,029.42
Net premiums in the United States December 31, 1934	\$4,860,611.78
Risks written in Maryland during 1934	37,632,931.00
Premiums on Maryland business in 1934	\$180,976.04
Losses paid in Maryland in 1934	73,267.37
Losses incurred in Maryland in 1934	67,013.37

STATE OF MARYLAND
Office of the

STATE INSURANCE DEPARTMENT
Baltimore, Md., March 1st, 1935

I hereby Certify, That the above is a true abstract, taken from the Annual Statement of the FIDELITY AND GUARANTY FIRE CORPORATION, BALTIMORE, MD., for the year ending December 31, 1934, now on file in this Department.

WILLIAM C. WALSH,
Insurance Commissioner.

Steel Specifications.—Republic Steel Corporation, Youngstown, Ohio, Central Alloy Division, Massillon, Ohio, has issued a new S. A. E. Steel Specifications Chart reprinted by Republic from the most recent revision of the list of standard S. A. E. alloy and carbon steels.

Power Transmission.—Results of a two-year study of power transmission costs under a wide variety of conditions to determine the economic use of mechanical power have been presented in a booklet issued by the Power Transmission Council, 370 Lexington Avenue, New York City.

"Wood Structural Design Data."—The foregoing is the title of a volume by R. G. Kimbell, A. T. Upson and M. Ahearn, and published by the National Lumber Manufacturers Association, Washington, D. C. It contains 294 pages 8½ by 11, and is priced at \$1 per copy. The publication presents information and tables dealing with structural design and the use of lumber and, as pointed out by Mr. Kimbell, it collates for the designer much information which has heretofore been available, only from several or many publications.

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Gives counts and prices on 8,000 lines of business. Shows you how to get special lists by territories and line of business. Auto lists of all kinds. Shows you how to use the mails to sell your products and services. Write today.

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THE STEEL WITH
Personality

Two men with the
same qualifications—
but one can serve
you better
because of his
PERSONALITY



Two Steel Ingots with the
same qualifications—
but one can serve you
better because of its
PERSONALITY

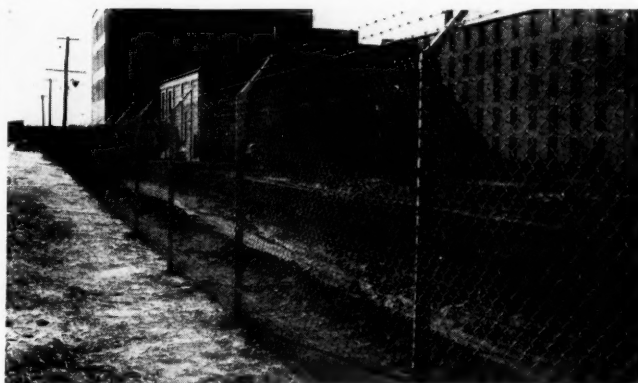
WITH complete control of all manufacturing operations at one big plant, GULFSTEEL can supply you with steel possessing the "personality" (over and above physical and chemical specifications), to do YOUR particular job better. You be the judge. Write for particulars.

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BILLETS · SLABS	WIRE FENCE	FORMED ROOFING
BLOOMS	FENCE POSTS	RODS · WIRE
BARS · CHANNELS	STAPLES	WELDING WIRE
ANGLES	BALE TIES	NAILS
PLATES		SPIKES

GULF STATES STEEL COMPANY
BIRMINGHAM, ALABAMA

New

**ZINC COATING PROCESS MAKES
CHAIN LINK FENCE LAST LONGER**



ANCHOR Fences

VASTLY IMPROVED BY USE OF

BETHANIZED WIRE

CHAIN link fence lasts as long as the zinc coating on the wire. The *purer* the zinc coating—the more uniform in thickness—the longer the life of the fence. Now comes Bethanizing—an entirely new process—applying to the steel core a zinc coating, which is absolutely uniform, perfectly smooth, extremely ductile and *chemically pure*! Result: Chain link fence which stands up years longer—even in atmospheres heavy with salt, soot and other corroding agents.

Plant owners, managers, and maintenance engineers will appreciate the extra years of service and improved appearance which Bethanized Wire gives to Anchor Chain Link Fence. The Bethanized coating of *pure* zinc can be made as heavy as you wish—with extra heavy coatings where needed for extra corrosive atmospheres.

Add years to the life of your fence with Anchor Bethanized chain link fabric. Get the facts! Anchor Fences of Bethanized Wire are made in many different types and heights to meet every industrial requirement. They are readily available to you through our sales and erecting service offices—located in every important industrial center in the South. Mail the coupon for booklet giving full information—now!

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ANCHOR POST FENCE COMPANY

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Please send me your free book about Anchor Fences of Bethanized Wire for Industrial property.

NAME

ADDRESS

Giving the Taxpayer a Break

(Continued from page 31)

not for a discussion of the merits or demerits of particular sources of revenue. The Chairman of the Mississippi Tax Commission, as State Tax Commissioner, is charged with the administration of nine different revenue laws; Income, Inheritance, Franchise, Sales, Amusements, Tobacco, Beer, Malt and State-wide Privilege. The same policy is observed in the handling of each of these; that of cooperation, confidence and service. Here is another letter which is suggestive of the general results achieved. This one comes from Massachusetts, and it too is highly appreciated:

"Your personal letter addressed to your 'Taxpaying Friends,' has just been brought to my attention. I thought I would like to tell you how refreshing it is to receive such a communication from a Tax Collector's office. We are never very happy when we receive our tax bills but I can assure you it will be a real pleasure to remit to you anything in the way of taxes that our companies may owe to the State of Mississippi."

Constructive Publicity

We observe a policy of absolute publicity in all our operations. We endeavor at the same time to make our publicity serve an informative purpose to everybody interested in taxation generally, and in Mississippi taxation in particular. To this end, we issue service bulletins, from time to time, which convey information as to State finances. This information is absolutely uncolored. Its sole objective is accuracy. It is scientifically prepared, but is presented in non-technical, common sense form. We could fill a fair-sized book with reproductions of letters from merchants, business and professional men, bond and banking houses, statisticians and investors, testifying to the value of this information, both to them and to the state. We consider it our duty to include in our services both those who pay the taxes, and thus protect the credit of the State, and those who buy our bonds, and thus manifest their confidence in our integrity and good faith. Here is a recent letter which illustrates the reaction of the latter group. It is from a prominent firm of financial consultants in the city of Chicago:

"Thank you very much for all the data you sent us concerning the financial condition of the State of Mississippi. We wish to congratulate you on the fine type of work your Commission is doing and to express our admiration of the type of reports being published.

"Since we are interested in the bonds of the State of Mississippi we should appreciate receiving the pamphlets of the Commission as they

are published. We are especially interested in the receipts and expenditures of the various State Funds, both actual and estimated, and hope that reports giving this information will be continued."

The policy and attitude which are thus indicated, as controlling our transactions with taxpayers and the public in the matter of the taxes above enumerated, are observed with equal care and fidelity in the matter of our assessing and equalizing responsibilities. Our Tax Commission has to assess all the railroads, power and gas companies, telephone and telegraph companies and other utilities in Mississippi. We also have to equalize real and personal property assessments among the several counties of the State. We make no distinction among the various taxpayers and taxpaying groups of the State, and as a matter of public record so expressed ourselves in our official report to the 1934 Legislature. We quote from that report as follows:

"We have endeavored to conduct the affairs of the Tax Commission in a manner calculated to reflect credit upon the State. We have regarded ourselves as trustees for the people of Mississippi, in the best and fullest sense of the term. We have tried to serve the taxpayers of the state upon a basis of equal and exact justice to all,—regardless of the nature or magnitude of the particular operation, without prejudice upon the one hand or favoritism upon the other. In all things we have tried to exercise the saving grace of common sense, untrammelled by servitude to precedent, technicalities or fear. In the sense of service, we have recognized no distinction between the State and its people. Under our system of government the people are the State, and their interests are, and must remain, identical and indivisible. We have, therefore, appealed to the taxpayers of the state to help us, by their cooperation and goodwill, in our efforts to administer in their behalf the laws which they themselves, through their chosen representatives, have established for their own uses and needs. Because they have so finely responded to our appeal, and not because of any merit personal to ourselves, we are able to report to you that the system of revenues which you and Governor Conner provided, and entrusted to our administration, has accomplished the purposes for which it was established and has achieved the results which it was calculated to secure."

Equality Before the Law

Class distinctions among taxpayers are subversive of the fundamental principle of equality before the law, whether permitted in the interest of the small taxpayer or the large one. We observe the same rule of detached and disinterested accuracy in assessing utilities that we follow in our other operations. We also follow the same method of cooperation and confidence. We seek the same

end of tax equalization, as an ideal of tax administration to which all taxpayers are entitled and to the attainment of which all should be willing to make cooperative contribution.

Fairplay in Assessments

We have secured the same responsive results in the field of utility assessments, through this method, that we have in the illustrated cases of other lines of administration. Utilities and all other forms of corporate enterprise have come to realize that we are sincere in our expression of a desire to render cooperative service, and in our assurances of fairplay in return for cooperation upon their part. We do not claim to have accomplished anything miraculous, in this connection, or to have achieved the ultimate in assessing practice and results. But we do feel that we have made progress. We have been given free access to private records and documents, and no request made by us has been denied. We have thus secured data and information through our cooperative policy which have been invaluable to us, and which could have been otherwise obtained only through a heavy outlay of effort, time and money, and, possibly, only through legal proceedings, or not at all.

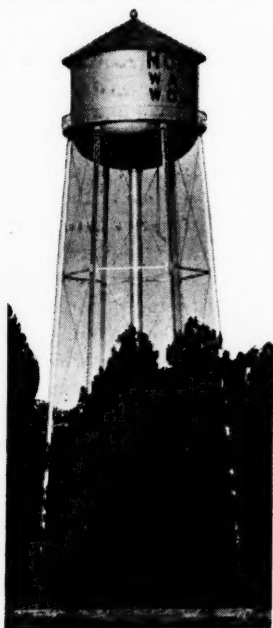
The following extracts are quoted with appreciation from a statement recently published by a prominent tax attorney of one of the largest railway systems of the country, as another illustration in point:

"The present Mississippi Tax Commission is giving full publicity to its methods of assessment of railway property and is inviting inquiry from all interested parties. As a result of the fair, reasonable and impartial methods now being employed in the enforcement of all the revenue laws of Mississippi, the State has been rescued from a condition where insolvency seemed imminent and placed on a sound financial status. Monthly reports of tax activities are published. Taxpayers of all kinds receive patient and considerate hearings of their complaints. By thorough investigations thousands of dollars have been added to the tax rolls which had been escaping taxation.

"The Tax Commission's administration of the sales tax, which Mississippi was the first state to adopt, has been so reasonable, impartial and successful that the people of that state have been thoroughly convinced of the wisdom of the sales tax and the method of enforcing it. It has served as a model for similar taxes in other states. The writer was present at a meeting of the National Tax Conference in Boston, Massachusetts, last October, at which Professor C. J. Bullock of Harvard University, one of the greatest authorities in America on tax matters, introduced A. H. Stone, Chairman of the Mississippi State Tax Com-

(Continued on page 60)

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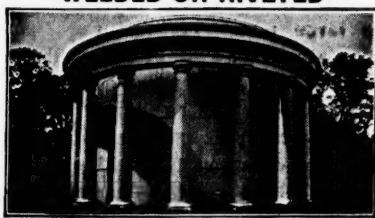
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United States Steel Corporation Subsidiary

Giving the Taxpayer a Break

(Continued from page 58)

mission, with the statement, that in his opinion, Mississippi has the best tax commission of any state in the Union at the present time."

"In accordance with its policy of seeking full information before making assessments, the Mississippi Tax Commission is now requiring far more detailed information from us than has ever before been required by any tax commission in that state or in any other state where we do business. We have been required to file not merely a more voluminous annual report to the tax commission than is required in any other state, but in addition to this annual report we have been requested to file detailed maps showing every parcel of ground other than the regular right-of-way in all cities and towns of importance in Mississippi, and to show on these maps the assessed values of all the surrounding lands and lots, in order that the commission may be absolutely certain that it is assessing railway lands for at least as much as the assessments of the surrounding real estate. This has involved a great deal of work on the part of our Land and Tax Departments, but we have been glad to do it in order to cooperate fully with a tax commission that is so obviously using its very best efforts to make assessments which are fair and equal."

In fairness to them, we wish to add that the foregoing statement also correctly describes the general attitude toward their tax problems in Mississippi, and their relations with this Tax Commission, of all the other utilities in the State; railroads, power and light companies, gas companies, telegraph and telephone companies, et cetera.

Goodwill and Confidence

There is no mystery about what we are trying to do. In our view of the matter, the goodwill of the taxpaying public is just as valuable an asset to the State of Mississippi as is customer goodwill to any mercantile or industrial establishment within her borders. And such goodwill should be just as carefully cultivated and safeguarded by those who are charged with the business of tax administration in behalf of the State, as it should be by those who are responsible for the business management of an industrial enterprise. The returns will be equally as sure, and proportionately as great to the State as to the industry; and in some respects perhaps more valuable, more far reaching and more important. This may not be orthodox tax administration, but to us it seems to be of the very essence of administrative fairness and commonsense. Modern governments are founded upon the consent of the governed; some in theory and some in fact. And the con-

sent of the governed may do well enough for a foundation and a cornerstone. But more than consent must be built into the superstructure, if the governmental fabric is to endure. There must be present also the active support and affection of the people, which are inherent in a loyalty which can spring only from their confidence and their goodwill.

Growth of World's Largest Oil Plant

(Continued from page 30)

The output of kerosene, now erroneously relegated to the past, is more than a hundred times that in 1902.

Active expansion again started in 1922, with authorization of six Prichard-Henderson pressure stills, thirty-three 300-type stills, twenty-two hanging type re-run type stills, steam stills, agitators, treating plants, and doubling of the acid facilities, as well as more power plant capacity. Completion of power plant Number 2, across Taylor's Bayou, was effected, with construction of 14 more Alchlor stills, and doubling of the chlorine plant, as well as a 1000-foot dock, was followed by addition of twenty-four 500-type stills, and boiler house 17.

New developments again accelerated expansion. The 300-type stills were abandoned, twenty-four more 500-type stills erected. Then came construction of eight 700-type stills, the bright stock plant, two 14,000-barrel topping units, the Coastal "A" stills, a blending stock plant, the Gulfpride plant, eight 750-type stills, six 8110-type stills, the topping units, eighteen hanging type bright stock stills, power plant Number 3 with its 400-foot stack, said to be the highest piles supported stack in the world, and more steam electric and acid capacity.

The entire site of the Port Arthur plant is enclosed by levees for protection against high water. Eight miles of concrete roads and 13 miles of railroad track lie within the plant. Total capacity of the tankage facilities is 11,000,000 barrels. There are over 1700 pumps for handling the raw processed and finished materials. Six refrigerating plants furnish the 1000 tons of refrigeration for dewaxing and other purposes. Two Foster-Wheeler stills, which operate in two stages at atmospheric pressure and under high vacuum, are pointed to by officials of the company as outstanding installations. These and other stills form the back-bone of the plant. Treating agitators number 121 and 82 filters are the principal elements in finishing up the stocks. Twenty-two chilling machines, a number of chilling tanks, 28 great filter presses, and several score of centrifuges

are used to remove the wax from wax-containing oils, and a large number of sweating ovens and other pieces of apparatus are in refining that wax for market.

Several millions of gallons of water are used each day for cooling the condensers, making steam and other purposes. The major demand for water, used for recondensing distilled fractions of oil, is supplied from an adjacent Pine Island bayou. At the time of the drought, when the reservoirs were almost dry, the company in 21 days secured right-of-way, dug canals, installed pumps and had 7,000,000 gallons of water pouring into the reservoir from the bayou, 40 miles distant. Artesian wells provide water for chemical solutions and for use in final washing of the oil. Other water is brought in tank cars from springs in Louisiana for drinking purposes.

A large wireless station for communicating with the company's ships at sea is one of the unusual facilities of the plant. Other buildings include a large six-story office building, four large laboratory buildings, a first aid station, and numerous mechanical shops, such as the boiler shop, blacksmith shop, brass foundry, carpenter shop, car repair shop, drum repair shop, electric shop, machine shops, pipe shop and pipe bending plant, cooperage shop.

Among the activities incidental to the refining of petroleum are the acid plant with its capacity of 400 tons of sulphuric acid daily, a hydrochloric acid plant, the 40-ton daily capacity chlorine plant with its capacity for a similar amount of caustic soda and a substantial amount of hydrogen, and a plant for the large scale manufacture of anhydrous aluminum chloride, as well as the oxygen plant and several others.

The growth of the Port Arthur Refinery to its present gigantic size and diversity of output is an illustration of what can be developed from the proper utilization of abundant primary raw materials of the Southern States.

The foregoing article on the "Growth of the World's Largest Oil Refinery" is the first of a series of descriptive articles on outstanding Southern plants which are the largest in the United States or the world.

G-E Exhibit at Southern Textile Exposition

A variety of G-E products will be featured in the General Electric Company's exhibit in space 116-117 at the Southern Textile Exposition held in Greenville, S. C., April 8-13. These will include a screenless open textile motor and control, standard loom motor and control, variable-speed spinning equipment, and a rayon motor, as well as rayon buckets, wire and cable, and meters.

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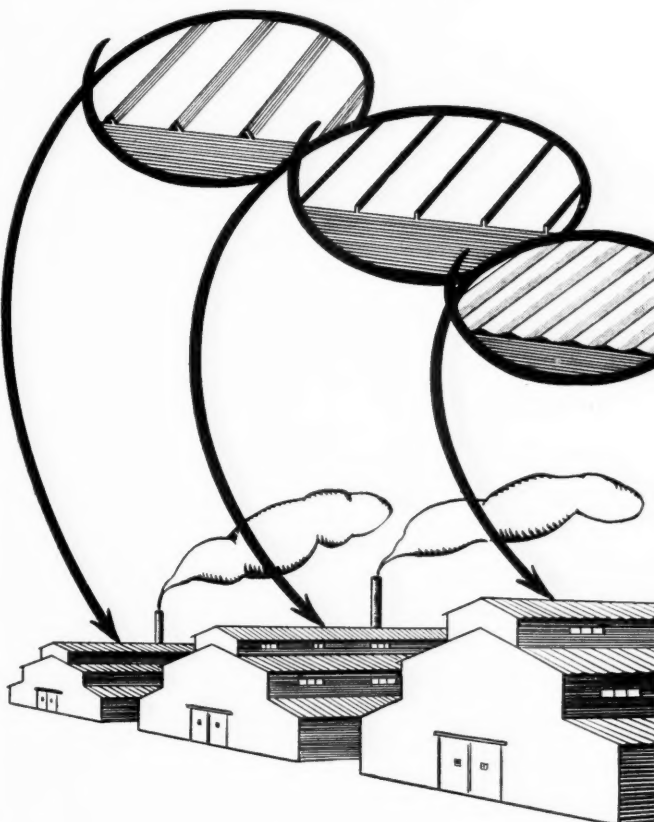
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Our Changing Economic Philosophy

(Continued from page 25)

of the employer as to hours and wages, as such freedom prevents control of production and price, the productivity of a locality or a season.

The control is now exercised through Paragraph 7A of all codes though you will not find the objects so defined. The paragraph provides for collective bargaining and choosing of representatives, fixation of minimum wages and maximum hours, but is the first step in unifying labor into controllable groups with the individual governed by majority action.

This control may be furthered by the passage of certain bills pending in Congress providing for the elimination of free or plant unions and enforced membership and control by the National Union of the American Federation.

Through this paragraph and the decisions of the National Labor Board and its subsidiary boards, labor is rapidly becoming amenable only to the State.

To an extent the resources of the country are now controlled.

Through the acquisition of land now going on as well as such governmental

activities as the Civilian Conservation Corps, and through code control in the lumber industry, forests and their products are now regulated.

The production limitation of iron, coal and oil provided in the codes places such resources under government, while there are bills pending to acquire such resources outright.

Streams while deepened and canalized to some degree in the past are now being treated to renewed activity. A great program of empoundment is under way openly dedicated to the actual or potential production of power to be generated and marketed in many cases in direct competition with privately owned plants. Such developments must place in the hands of the State all electrical power production, and through this control, further control upon the production of raw and finished materials.

Land and agricultural control is being extended through direct control of usage for agriculture through limitation of crops and animal production, the reforestation plans, flood control, and conservation projects, while in contemplation are not only extension of these activities but acquisition of marginal and sub-marginal lands.

Planned Economy first appeared in the field of transportation and has now developed to a point where not only does

the Interstate Commerce Commission function to prevent discriminations between communities, consignees and consignors, and classes of service, but exercises purely managerial functions in many instances. At the same time, through the Railway Labor Act, the control of wages, conditions of employment, and even discipline are undertaken by a Federal agency. At the same time a Coordinator is charged to not only study all forms of transportation but actually empowered to perform managerial duties, while through the conditions under which the Reconstruction Finance Corporation grants loans, purely managerial and owner functions have been assumed by the Federal Government. The division between the present operation and actual government ownership and operation is very small. These same conditions will in all probability be extended to automotive transportation and to some extent to that performed by boat.

In such manner has the New Deal—the philosophy of Planned Economy—already exerted its force to control capital, labor, land resources and transportation, and indicated through legislative enactment and proposals still further control.

Such an experiment carried on involving some 125,000,000 people must of necessity entail great costs and another cost involves the loss of freedom.



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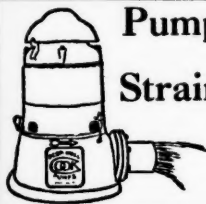
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IN STANDARD AND SPECIAL ANALYSES

CENTRAL IRON & STEEL COMPANY...HARRISBURG, PA.

New Cotton Uses

(Continued from page 32)

will meet with immediate favor.

Cotton can be made fire resisting by treating it with sodium bicarbonate, which under combustion sets up a carbon dioxide gas within the insulation. Carbon dioxide replaces oxygen and will not support combustion, therefore, the cotton is made fire resisting. It can also be treated with Di Ammonium phosphate. By either of these treatments the Lintsulation is made more fire resisting than other vegetable fibrous insulating materials.

The potential market for cotton insulations is estimated at 15,800,000 bales. A consumption of cotton of this proportion would require several years and would mean the employment in manufacture, production and distribution of approximately 1,000,000 people.

These figures are based on Lintsulation board of a density of from 3.3 to 6.3 pounds per cubic foot, which is the optimum for efficiency in the various thicknesses.

This is revolutionary and far-reaching in the stabilization of the industry. It means higher quality of manufactured cotton goods, tire cords, tire fabric, bagging, and other manufactured cotton products. It means that the lower grades

of cotton and linters will be absorbed and prevent the dumping of cheap and inferior manufactured products to the detriment of manufacturers, merchandisers and consumers, thus cotton products will be able to meet artificial substitutes that have greatly demoralized this industry.

It is the general consensus of opinion that it is necessary to add large and expensive machines to standard mills to effect the manufacture of these products. This idea is entirely wrong as comparatively inexpensive pickers, shredders and condensers will form the cotton or lint into sufficient and perfectly grained batts which are fed directly into the Lintsulation machine. The interstructure is introduced between the batts and is automatically constructed after which it is stitched or double-backed with fibre board, as the case may be, formed into units or slabs of desired size, wrapped and hermetically sealed or rolled in rolls to be shipped to manufacturers or consumers.

Inasmuch as the cotton industry is the back-bone of the South and is allied to the many industrials throughout the North, it is believed that the use of cotton in insulation will contribute immensely to the relief of the cotton surplus now existing. It is believed that the railroad whose revenue is largely accrued in the cotton belt, will be deeply

interested in using cotton insulation in refrigerated transportation. Surely the great manufacturers of domestic refrigerators will be interested to use many million of feet of cotton insulation in refrigerators which they propose to sell throughout the cotton belt. More than 80% of electric refrigerator manufacturers are using some form of vegetable fibre as an insulator in their equipment. The manufacture of carpet and rug cushions will absorb a large tonnage of lower grade of cotton and also considerable yardage of cotton cloth.

This product is of particular interest to the paper board industry inasmuch as 2 square feet of kraft paper is required for each square foot of Lintsulation. Where moisture-proof Lintsulation is desired, 4 square feet of kraft paper, treated with emulsified asphalt, is required for each square foot of Lintsulation, and 3 square feet of chip board or heavy kraft paper is required in the interstructure for each square foot of Lintsulation. This runs into a tremendous tonnage which is sufficient to relieve the surplus production in the Southern kraft paper industry and greatly benefit the chip board industry in general.

This is the kind of relief that is needed for the cotton industry both in the raw products and the manufactured products field.

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LOUISVILLE — KENTUCKY

Fire Protection in Slash Pine Region of Southeast

(Continued from page 29)

that annual fires will help grazing.

Adequate fire protection means good relationship with neighbors, and a highly organized fire control unit. It means lookout towers, telephone system, patrolmen equipped with telephone hand sets which they can either plug in at a plug-in station or hook on the line with very little trouble, land blocked into units which are surrounded by fire lines, roads or swamps, and above all adequate fire fighting equipment and a personnel trained in fire fighting.

The most important thing in fighting fires is to get to the fire as quickly as possible once it is located, so as to start fighting it before it heads. This requires a good road system. In the slash pine region, the country is rather flat, and has been pretty well broken up with roads used in turpentine operations. At only a small cost, these roads can be put in shape to allow cars and trucks to run over at fairly high speeds. Roads are very useful in back firing and they will also stop slow fires. Thus roads

serve a double purpose, transportation and fire breaks. Much of the work of the C.C.C. in the Southeast has been the building of fire breaks in the form of roads. Roads are a permanent improvement to a forest and requires very little care once they are put in good shape.

Fire breaks are quite important in this region, but not great wide breaks, because they often provide a sweep for a fire. When a fire reaches a clearing where there is plenty of oxygen and wind—such as there is if wide breaks were used—it takes on added fury and seems to shoot in all directions. This causes many crown fires. Fire breaks will not stop a fire except a slow running one, but are highly essential for back firing. These breaks can be in the form of roads which are covered with carpet grass, plowed lines not over twenty feet wide, ponds, or swamps. They should divide a forest into about fifty acre compartments.

A fire control system includes the towers, telephone system, and patrolmen. If any protection at all is to be had, a good lookout system is necessary. The towers should be so located that perfect triangulations can take place and should be manned by men that know the surrounding country, because there are many times when the telephone line is out of order, and at such times a

good lookout can locate a fire fairly well by his knowledge of the country.

In locating a telephone system two important phases must be considered; first, it must cover the entire forest; second it must be within reach of different parts of the forest in a very short time. Telephones should be placed in houses along the line, plug-in stations should be well located, and mine telephones should be placed at strategic locations along main roads, so that people going along can report a fire. On very smoky days it is impossible to locate a fire from a tower. It is on these days that the importance of a good telephone system is shown, because many fires which only the patrolmen are able to locate, occur at this time.

Good roads, a fine system of fire breaks, and a good lookout system are utterly worthless if the fire fighting equipment is inadequate. Man power equipped with the most up-to-date fire fighting equipment is needed to fight forest fires in the Southeast, and without the equipment man power is worthless. This has been proven time and again. Of course, there also have to be a few men who know something about fighting a fire, who act as leaders. Equipment consists of rubber flaps—pine tops are poor tools—good back pumps, shovels, rakes, axes, and above all some way

(Continued on page 68)

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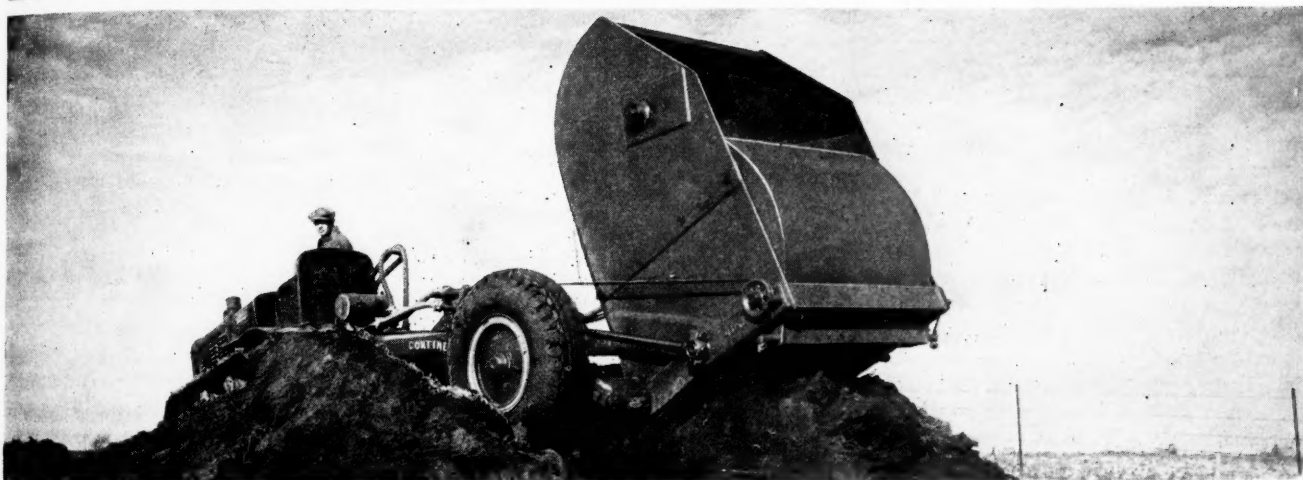
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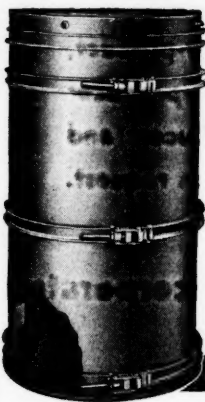
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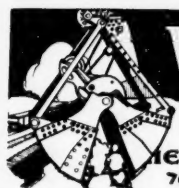
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Fire Protection in Slash Pine Region of Southeast

(Continued from page 66)

of transporting water to the fire line. Of course, a truck equipped with all these tools, an automatic pump, and ready at all times to run to a fire is invaluable. A truck ready at all times, means getting to the fire quickly, no time lost locating equipment and getting it onto a truck or car. The time element is very important as it sometimes means less work and, of course, cuts down the acreage burned.

It is quite important to have a small crew that is trained in fire fighting, always ready to go to a fire. A few men that know what to do can do the work of a large inexperienced crew and in much shorter time. This fire fighting crew can be used in keeping up the roads, fire breaks and in carrying on thinnings or other cultural work at other times during the year.

In order to grow slash pine in the Southeast, absolute fire protection has to be practiced. This means an expenditure of money for equipment and improvements, but this expenditure is less than the annual premium an owner of

a building, having the same value of a forest, often pays for fire insurance. This cost will be more than justified, because the return will be much larger and the rotation will be shorter. The damage a fire does to slash pine cannot be judged immediately, but it shows up years later, and each fire lowers the future return.

Following this general discussion of proper forest fire protection practices Part II, covering actual cost and results of fire protection operations in the Sattilla Forest in Southeastern Georgia, will be published in the May issue of the MANUFACTURERS RECORD.

Farm Prices and the Consumer

(Continued from page 28)

dicap to the resumption of favorable economic progress in the United States.

The highly experimental nature of the Agricultural Adjustment Act and the lack of proof of its economic success to date can hardly justify additional legislation tending to increase the powers of the AAA over both the farmers and the handlers, distributors and processors of farm products. The pro-

posed amendments to the AAA would enable the Secretary of Agriculture to assume an autocratic control of industries producing, handling and processing annually over \$25,000,000,000 worth of farm commodities and their products. Besides being disastrous to the industries in question, the exercise of such powers by the AAA may be unconstitutional.

The evidence of growth of the "machinery of control" is seen in the development of the AAA personnel to 6190 employees with a cost from May, 1933, to November 30, 1934, of \$32,500,000. This growing bureaucracy constantly extending its power over all kinds of agriculture and related businesses and industries, must inevitably result in: Reduced production, higher living costs, decreased consumption, increasing business losses and more unemployment. Administrator Davis, testifying before the Senate and House Committees on Agriculture, stated that the powers granted the Secretary of Agriculture by the Act and the proposed amendments thereto would be only "reserve powers" and that the AAA had no intention of using them except in case of necessity. Careful consideration of proposed amendments to the AAA must create grave doubts as to the wisdom of their adoption.

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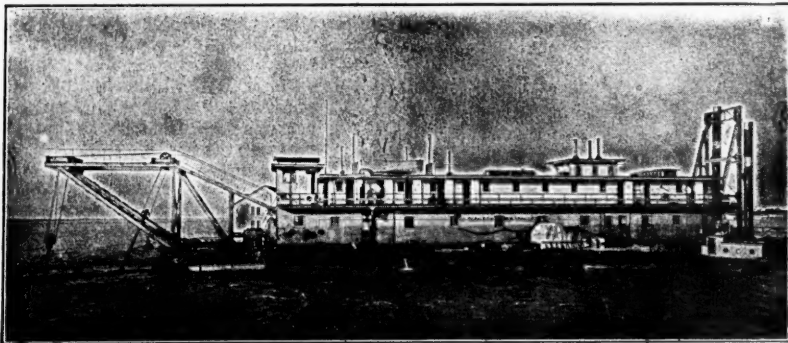
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The Banking Act of 1935

(Continued from page 24)

sist of the Governor of the Federal Reserve Board, who shall be Chairman of the committee, two members of the Federal Reserve Board, selected by the Board, and two Governors of the Federal Reserve Banks, selected by the twelve Governors. The term of members of the committee shall be for one year. Large powers are given to this committee. They may recommend to the Board any changes in discount rates of the Regional Banks. They "shall consider, adopt and transmit to the Federal Reserve Banks resolutions setting forth policies which should be followed with respect to open market operations of the Federal Reserve Banks and the Federal Reserve Banks shall conform their open market operations to the provisions thereof." It is suggested that the Open Market Committee should consist of the entire Federal Reserve Board and four Governors of the Federal Reserve Banks, each having an equal vote.

The Federal Reserve Board "in order to prevent injurious credit expansion or contraction may change the requirements as to reserves to be maintained against deposits by member banks." No limits are prescribed and attention has been called to the advisability of fixing

maximum and minimum reserve limits.

Loan Policies

Two important changes are proposed with reference to loan policies. Existing provisions relating to real estate loans are substantially liberalized. Territorial limitations are removed, but the general opinion among bankers seems to be that they should be retained. Real estate loans are allowed to be made up to 60% of the actual value of real estate, but such loans, where not amortized, are limited to three years. It is thought the limit on these last might be extended to five years.

With reference to the proposal that loans on real estate may be made not to exceed 75% of actual value if they are completely amortized within periods not exceeding twenty years, it seems to be the consensus that it would be better to leave the matter of maximum percentage to the discretion of the Board. In other words, the limits on all real estate loans might better be fixed by regulation of the Board rather than be written into the statute, but in no case should the limit exceed 60%.

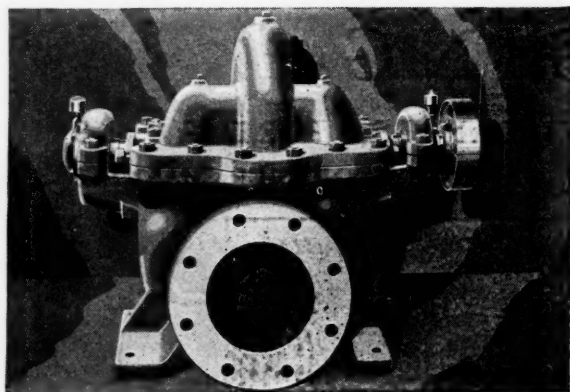
Eligibility of paper is dealt with. The Bill provides that, subject to regulations as to maturities and other matters by the Federal Reserve Board any Regional Bank "may discount any commercial, agricultural or industrial paper and

may make advances to any member bank on its promissory notes secured by any sound assets of such member bank."

It is very clear that the proponents of Title Two are desiring to emphasize soundness rather than technical set-up or even liquidity. It would have to be assumed that banks would recognize the necessity of self-diagnosis. For instance, a bank already having a large proportion of slow notes would properly decline to add to such proportion. There must always be borne in mind by every banker that he must maintain a proper adjustment between loans running over a period of years and liabilities payable on demand. Whether we like it or not, it is probably true that for a long time at least, the major part of bank investments will not consist of commercial loans.

In the making of long time loans, whether real estate or other kinds, the good banker will constantly bear in mind and avoid such dangers as over-appraisal of values and over-estimation of borrowers' ability to pay under amortization. It might be advisable for the loan limit for loans of this character (now 10%) to be restricted in actual practice to 5% of a bank's capital and surplus so as to avoid over-concentration of risk. In other words, a number of good small and medium sized

(Continued on page 72)



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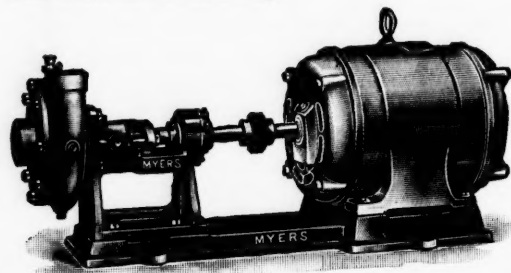
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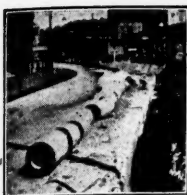
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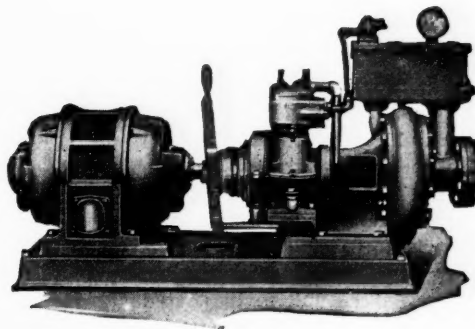
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The Banking Act of 1935

(Continued from page 70)

loans would doubtless be preferable to taking on a fewer number of large risks. I have abundant faith that the Comptroller and the FDIC will examine banks with such scrupulous and painstaking thoroughness as to safeguard them from dangers and pitfalls that might otherwise accrue.

The American Bankers Association, through a special committee appointed by President Hecht, has made many of the above suggestions for changes in the Bill, and others as well. This committee has been working tirelessly, constructively and unselfishly and, praise be, bankers are no longer regarded at Washington as obstructionists.

Broadening Cotton Uses

The Southern Textile Exposition which opens next week at Greenville, S. C., will be the attraction for cotton spinners and weavers and industries furnishing materials and equipment to Southern textile mills. During the week of May 6, throughout the country, the cotton goods consumer will be served. The cotton manufacturing industry and more

than 30,000 of the country's retailers will celebrate "National Cotton Week."

To cotton mill men National Cotton Week each year symbolizes their efforts, concentrated through the Cotton Textile Institute, to expand the consumption of cotton. So effectively has the public interest been centered on the long strides taken in the styling of apparel cotton and the adaptation of color and pleasing patterns to household cottons, that measurable progress in other directions to extend the use of cotton is overlooked.

Outlets in Industrial Fields

The research staff of the Cotton-Textile Institute is constantly exploring the possibilities of new potential outlets for cotton in industrial fields. Charles K. Everett, manager New Uses Section of the Institute, points out that these studies cover a wide range from constant promotion of the use of cotton bags for packaging fruits, vegetables, cement and other commodities sold in bulk to co-operation in the construction of experimental "cotton houses" and "cotton roads."

The first demonstration cotton house was completed at Northport, Long Island, last summer, and attracted widespread attention and general approval of architects and builders interested in the construction of low-cost homes.

So too have the economy and practicality of cotton roads, utilizing a cotton fabric membrane in the base, been demonstrated by experimental constructions in several states—the latest of which were completed last summer in South Carolina and New Jersey. An outstanding feature of the Memphis Cotton Carnival this year will be a demonstration construction of such a cotton road before highway engineers and officials of Southwestern states.

According to the Department of Agriculture, an inexpensive, weather-resistant treatment which fireproofs canvas has been developed. New uses for canvas which may result from this discovery will be reflected in increased consumption of cotton. An article published elsewhere in this issue describes in detail another possible use or outlet for cotton with the making of cotton insulation for various purposes. Chemists and engineers through research in the years to come will develop many new products and by-products from cotton. It is in this direction that the cotton interests of the South can turn with expectations of improving demand for cotton.

Counting Devices at Textile Show

A complete line of textile counting devices will be exhibited by Veeder-Root, Inc., of Hartford, Conn., at the Southern Textile Exposition at Greenville, S. C., April 8 to 13.

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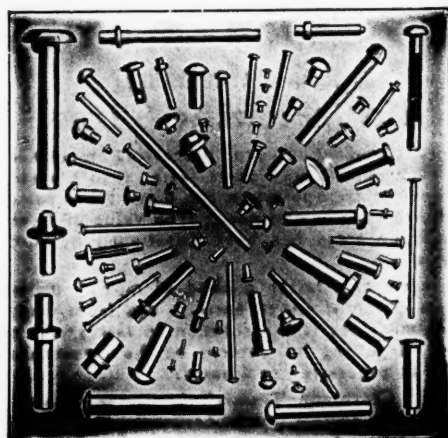
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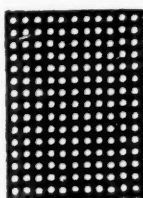
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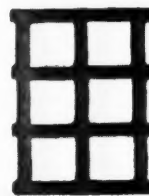
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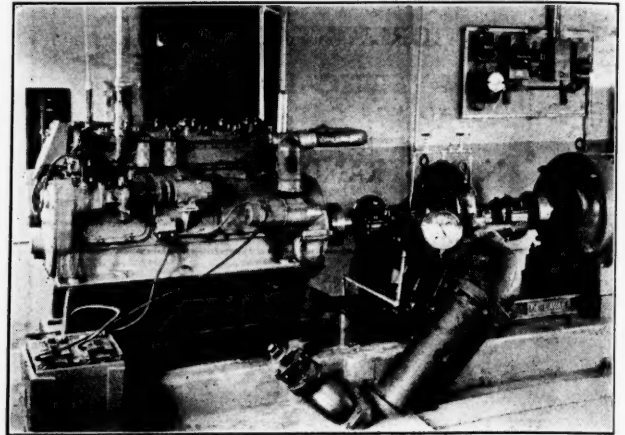
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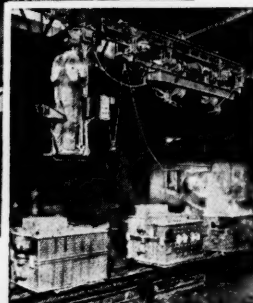
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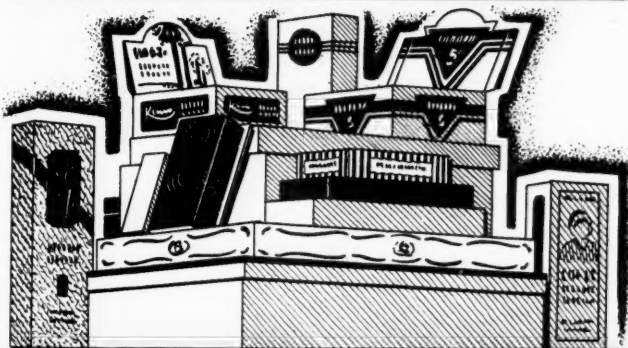
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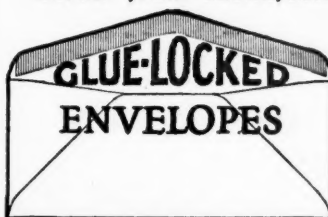
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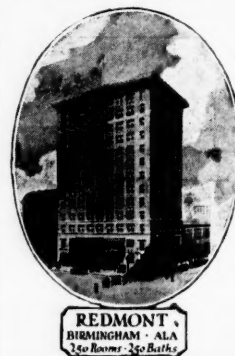
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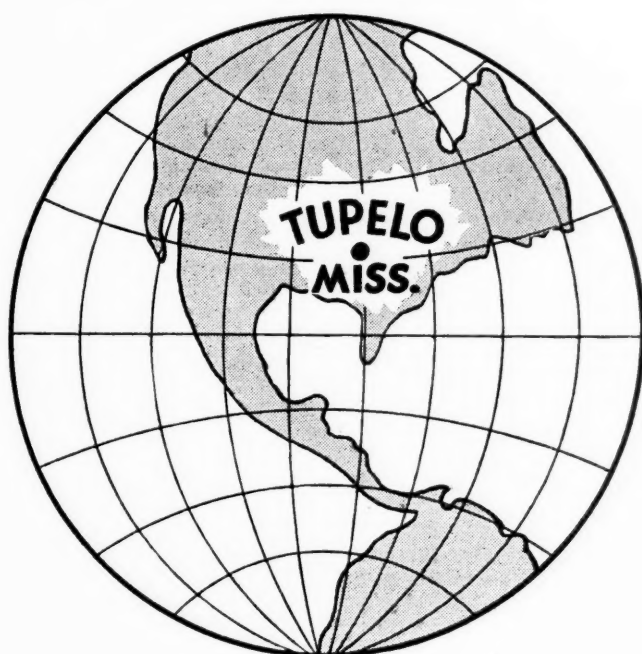
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Both units 3 ph., 60 Cy., 220 Vo.

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5-16" turbine driven; 2-14" turbine driven; 3-14" motor driven; 4-8" turbine driven; 1-10" Goulds; 2-8" Goulds; 1-6" Goulds; 2-5" Goulds; 1-4" Goulds, all motor driven; all sizes belted centrifugals from 4" to 10" in various types, including several dredge and sand pumps.

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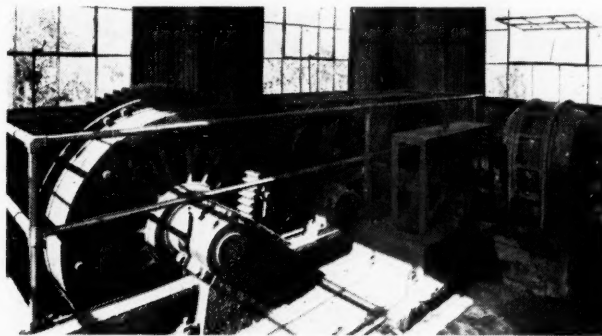
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Complete line of General Equipment, Boilers, Engines, Generators, Pumps, Heaters, Tanks, Blowers, Fans, Machine Tools, etc. Write for details.

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At One-Half Price

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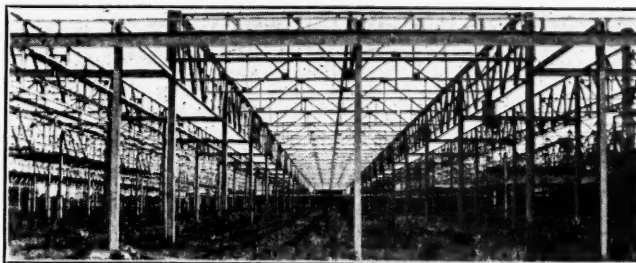
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GEORGIA MANGANESE
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All New 1929—Used 60 days

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All G. E. Co., 3 ph., 60 cy., 2200 v.

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- 2-200 hp., 1800 r.p.m., Slip Ring.
- 10-150 hp., 875 r.p.m., Slip Ring.
- 2-100 hp., 865 r.p.m., Slip Ring.
- 2-100 hp., 580 r.p.m., Slip Ring.
- 2-75 hp., 1750 r.p.m., Sq. Cage.
- 1-50 hp., 1730 r.p.m., Sq. Cage.
- 1-40 hp., 1745 r.p.m., Sq. Cage.

All above Motors have serial numbers above 5,000,000.

All Slip Ring Motors equipped with drum control, variable speed resistors, circuit breakers. Squirrel Cage Motors provided with CR-1034 and CR-1135 Starting Compensators providing time element overload and under-voltage protection.

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All Dayton-Dowd bronze fitted centrifugal type—hydraulically balanced.

- 2-10", 3-stage, 400 hp. Synchronous motor, 4000 g.p.m. at 240' head.
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- 2-6", 3-stage, each with 200 hp. Slip Ring motor, 1000 g.p.m. at 462' head.
- 6-6", 3-stage, each with 200 hp. Sq. Cage motor, 1000 g.p.m., 462' head.
- 1-6" with 50 hp. motor.
- 2-4", each with 40 hp. Sq. Cage motor, 750 g.p.m., 116' head.

Each of above pumps direct motor connected on common base, all in excellent condition; with complete starting equipment.

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1,500 Tons of Bell & Spigot Cast Iron Pipe, as follows:

- 12,000 ft.—24", Class B.
- 1,200 ft.—20", Delavaud Class 100.
- 1,200 ft.—16", Delavaud Class 150.
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Purchased new six years ago; used on clear water only—Excellent condition, with valves, fittings, etc.

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- 2—American Terry 10 T. Steel Guy Derricks, 115 ft. mast, 100 ft. boom, arranged for hook and bucket work.
- 1—Steel Guy Derrick Va. Bridge, 3 T., 120 ft. mast, 105 ft. boom, for steel erection.
- 2—10T. Stiff leg Derricks, complete but no wood.
- 2—American Swing Engines complete with 15 H.P. motor.
- 2—American Electric 2-drum hoists with swinger attached, 37 H.P. motor.
- 1—Lidgerwood Electric Hoist, Three Drum with Swinger and with 40 H.P. motor.
- 2—Lidgerwood Electric Hoists 2-drum with swingers and 40 H.P. motors complete.
- 6—Electric Elevators, Moffitt Mfg. Co., all complete with hoists, motors, track, elevators.
- 1-288 Smith tilting mixer on steel skids with charging hoppers.
- 1—Blaw-Knox steel hopper complete with 2 charging hoppers.
- 1—X70 Ingersoll Rand Air Drill complete with tripod and weights.
- 1—Steam Hammer Brownhoist Industrial short stroke complete with pile driving equipment.
- 1—Browning Caterpillar Crane, 40 ft. boom with 30 ft. extension, capacity 8 T.
- 3-2 yd. Concrete Dump Buckets.
- 4-1 yd. Concrete Dump Buckets.
- 2-1 yd. Concrete Dump Cars 36" gauge.

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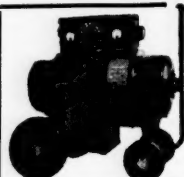
150 tons second hand structural steel formerly used in Government airplane hangars; also some 400 steel sash-open.

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- 6-150 HP 72 x 18 Boilers, Ohio Standard 150 lbs. \$600.00 each.
 - 1-New 450 HP Allis-Chalmers Corliss Engine, B.D. \$2000.00
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- Many other bargains. Send us your inquiries.

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 The new 40 Volt type—Electric Drive, Gasoline Engine and "Build Your Own" Generators—all at tremendous savings.
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 New Frogs and Switches at low prices.

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Interchangeable with various types of torches; also apparatus, accessories and complete outfits. Priced right. High quality and workmanship. Write for catalog.

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FOR SALE

Standard gage, 22 tons, practically new, in perfect order. Very cheap.

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DESIRABLE MACHINERY

- Air Compressor, 12x10" Chgo. "NSB", MD.
- Boring Mill, 36-44" N-B-P., side hd, MD.
- Crane, 5-ton Shaw OET. 45'6" span, Motors 220 V. DC.
- Engine, Diesel, 166 HP. DeLaVergne, 34 1/2" str. (new)
- Engine, Diesel, 120 HP, 4-cyl. Vert. (new.)
- Hack Saw, No. 5 Marvel 6x6" Auto. stock feed (4)
- Hammer, 30 lb. United, power.
- Hammer, 100 lb. Mayor, power.
- Keyseater, 24" Morton, cap. 2 1/4", B.D.
- Lathe, 20"x8" Hendey, T.A., cone.
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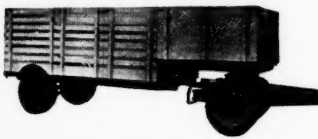


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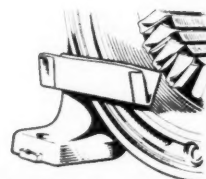
FEW users of F-M motors ever have occasion to come in contact with the men who actually design the product. But your problems of starting current, speed, slip, torque, operating conditions and a dozen other factors, are constantly reported to F-M design headquarters by our widely-flung field forces. This broad experience, based on specific facts in a hundred fields of industry, and with the thousands of F-M motors in industrial service, is responsible for the mechanical excellence of F-M motors.

From the early days of the electric motor, this policy of working closely with users to keep design always ahead of the times has been an "extra dividend" to every purchaser of an F-M motor. It is his assurance of correct design and long life for the motor he buys.

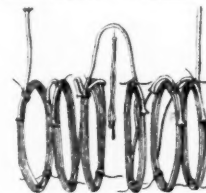
F-M type QC motors have been especially designed for service in those plants where moisture, steam, dust, corrosive fumes and metallic particles are likely to impair motor efficiency. Because this special line of motors is built with completely enclosed and protected windings, cooling air cannot carry metallic dusts to cause short circuits. Corrosion and moisture cannot cause mechanical failures.

Before you decide on a specific type or make of motor for any service, be sure to see what the man from Fairbanks-Morse has to offer.

Fairbanks, Morse & Co., 900 S. Wabash Ave., Chicago, Ill. 32 branches at your service throughout the United States.



Special self-locking cuff insulation in stator core slots gives permanent protection from slippage and added mechanical and electrical protection to windings.



Group wound coils from a single piece of wire eliminate many stub connections which are a source of mechanical failure. Lead connections are WELDED for permanency.



Sensitive Vibrometer test for proper running balance of every F-M motor assures smooth running and eliminates wear through vibration.



F-M Type QC totally enclosed, fan-cooled, squirrel-cage motor. Standard NEMA mounting.

**Pioneer
Designers
and
Manufacturers
of
POWER, PUMPING AND WEIGHING EQUIPMENT**
105 Years

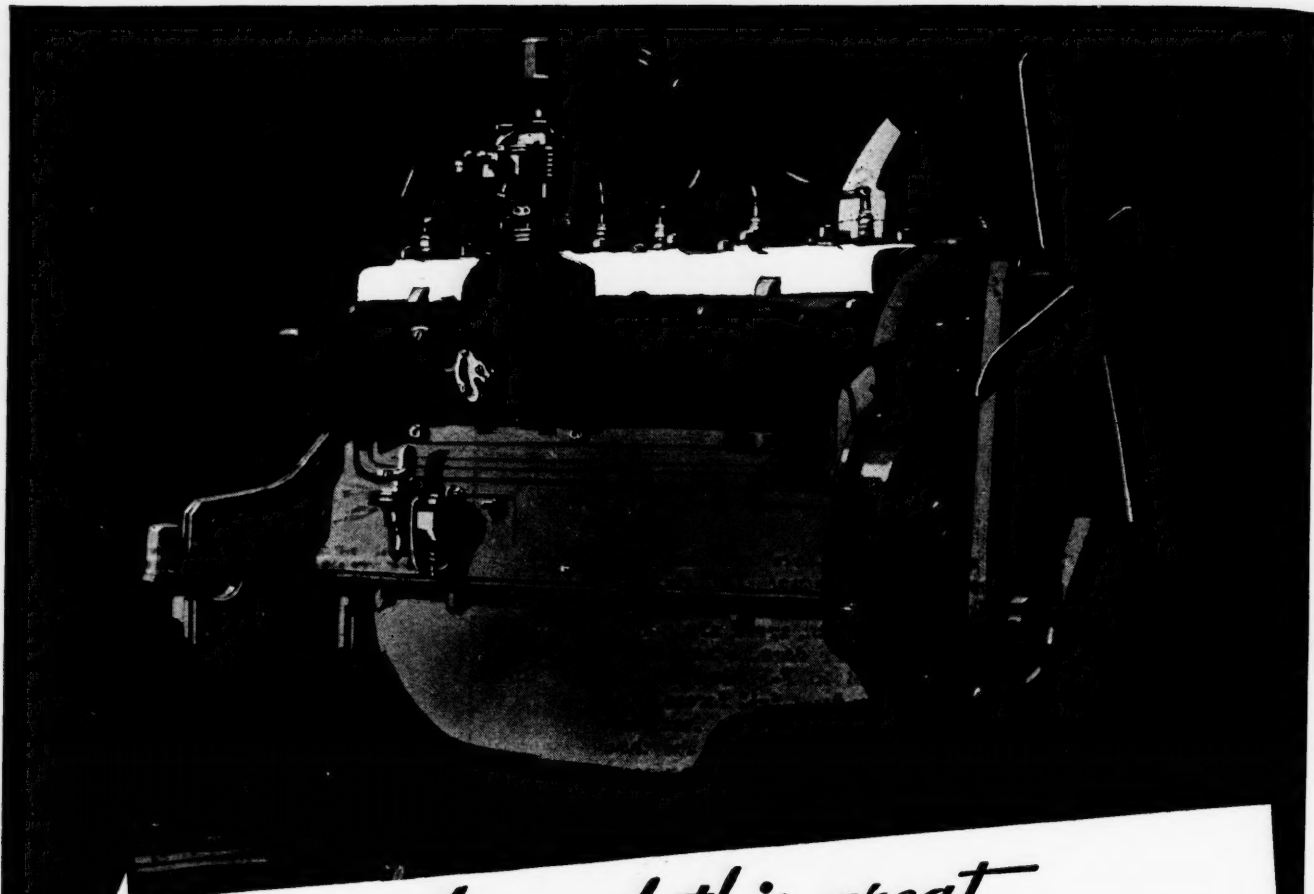


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is constructed a brilliant new 1½ Ton chassis which answers the needs of 60% of all truck buyers.

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Reo Speedwagons and Trucks range from ½ to 4-6 tons including Tractor-Trailers and Buses. Prices from \$495 up, chassis f.o.b. Lansing, plus tax. Special equipment extra.

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